

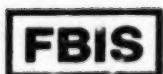
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USSR Report

AGRICULTURE

No. 1361



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MAJOR CROP PROGRESS AND WEATHER REPORTING

BRIEFS

SUGAR BEETS--Voronezh Oblast--Sugar beets occupy 206,000 hectares. They are cultivated according to industrial technology on almost 50,000 hectares. Workers of the fields are counting on obtaining 4.25 million tons of tubers. The plants must process more than 450,000 tons of sugar. [Excerpts] [Moscow IZVESTIYA in Russian 24 Jun 82 p 1] 11772

KURSK SUGAR BEETS--Kursk Oblast--The sugar beet fields occupy about 200,000 hectares. This year industrial technology is being introduced on more than 75,000 hectares. The commitment is to sell the state 4 million tons of tubers and to produce more than 330,000 tons of sugar. [Excerpts] [Moscow IZVESTIYA in Russian 24 Jun 82 p 1] 11772

BELGOROD SUGAR--Belgorod Oblast--It has been decided to harvest no less than an average of 240 quintals of tubers from each hectare. By the end of the five-year plan the annual production of raw material for the sugar industry will be increased to 3.46 million tons. [Excerpts] [Moscow IZVESTIYA in Russian 24 Jun 82 p 1] 11772

CHERNOZEM SUGAR BEETS--Voronezh-Belgorod-Kursk--On the fields of the central chernozem zone, the largest sugar beet areas in Russia, the tending of the planted areas is constantly under the control of party committees and ispolkoms of local soviets of people's deputies. Each oblast has created oblast and rayon staffs and the farms have created special commitments which accept on documents the areas planted in sugar beets on which particular technological operations of the growing period have been completed. The staffs are now being called upon to mobilize the efforts of rural workers to care for the planted areas. Additionally, it is important to prepare as well as possible for the harvesting of the seed sections, for the central chernozem zone is one of the main suppliers of sugar beet planting material. It is necessary to accelerate the repair of sugar beet harvesting combines. More than a thousand of them are now in operation in Voronezh Oblast, and more than 700 in Kursk Oblast. It is necessary to prepare for harvesting both the roots and the seeds taking into account the fact that this will be done at later time periods than usual. [Excerpts] [Moscow IZVESTIYA in Russian 24 Jun 82 p 1] 11772

AUTOMOTIVE TRANSPORTATION--Kursk--The oblast has done a great deal to reduce the idle time on automotive transportation. But, as in the majority of sugar beet raising oblasts of Russia, there is an immense need for modern loaders here. "We have only 159 SPS-4.2 loaders on 500 farms," says the head engineer of the oblast agricultural administration, V. Markin, "3-5 sets of equipment per rayon. It was necessary to re-equip as loaders 148 root harvesting combines that had been written off." And still the rates of the harvest and particularly the shipment of sugar beets from the fields do not correspond to the technical capabilities of the harvesting and transport complex in the oblast. Only 2 rayons--Medvenskiy and Korenevskiy--have reached the control figures for daily productivity of combines and automotive transportation. For example, the farms of Ryl'skiy Rayon ship only one-fifth to one-sixth of the roots each day. There is no hurry with shipping sugar beets in Konyshvskiy or Ponyrovskiy Rayons. Despite the strict requirements of soviet agencies and operations staffs for controlling the sugar beet conveyor, automotive transportation is not being used as well as it could be. The sugar beet harvest is taking place under difficult conditions on the Kursk fields. The drying out of the land impedes the harvesting and cleaning of the roots and creates additional loads on the combines. But in places where the sugar beet growers strictly meet all the requirements of industrial technology for the cultivation of this industrial crop the harvest is proceeding smoothly and well. Precise calculation and skillful maneuvering of technical equipment as well as constant attention to the living conditions of those who are participating in the sugar beet harvest--these are the guarantee that it will be completed successfully. [Excerpts] [Moscow IZVESTIYA in Russian 12 Oct 82 p 17 11772]

RUSSIAN SUGAR BEETS--Sugar beets occupy more than 3.5 million hectares in the country and 1.5 million of these hectares are in the Russian Federation. A network of processing enterprises is concentrated here. This is one of the country's largest sugar shops of the agro-industrial complex. Most of the sugar beet fields in the republic are in Voronezh Oblast--206,600 hectares. They cover almost as much area in Krasnodar Kray and more than 189,000 hectares in Kursk Oblast. Harvest is in full swing everywhere now. How will the sugar conveyor operate? [Excerpts] [Moscow IZVESTIYA in Russian 12 Oct 82 p 17 11772]

HARVEST-TRANSPORT COMPLEX--Voronezh--About 600 harvest-transport complexes which combine technological teams and auxiliary services are working on Voronezh fields. Initiative, inventiveness and autonomous financing have become customary. Thus the oblast has manufactured 4,000 two-shaft cleaners, and this means that the combines provide tubers that do not require completion of cleaning by hand. About 100 sugar beet loaders, manufactured from KS-6 combines that have been written off, have been put into operation. But reserves are still not being utilized and people are still not working as they should everywhere yet. On a number of farms there is a large time lapse between the harvesting and shipping of the tubers, which have accumulated on the field. And this means losing 0.1 percent of the sugar content each day. We have been receiving indications of other losses--many sugar beets are left on the fields after the re-equipped combines have passed, the top removing machines are poorly regulated and sometimes damage the tubers, their sugar content decreases, and some drivers leave "tracks" on the roads. [Excerpts] [Moscow IZVESTIYA in Russian 12 Oct 82 p 17 11772]

MORE SUGAR BEETS--The USSR Food Program envisions increasing the production of sugar beets to 102-103 million tons during the 1980's. By 1990 the Russian Federation must increase the production of sugar beets approximately 1.3-fold as compared to the average annual level under the 10th Five-Year Plan. This means that soviet and economic agencies, kolkhozes and sovkhoses should concentrate attention on increasing the productivity and improving the quality of the raw material and considerably reduce losses. This year's harvest, which is entering its final phase, shows that local soviets, economic agencies and managers of kolkhozes and sovkhoses, sugar refineries and transportation subdivisions are still not doing everything they could to fully preserve the harvest and block off channels for losses. The rates of harvesting in the Russian Federation are lower than last year's. And, after all, in the main sugar beet zones the weather is already starting to be inclement. Many plants are now not operating at full capacity. In Voronezh and Kursk Oblasts, and especially in the Kuban', as an analysis shows, the rates should be considerably higher. The autumn insistently requires that all forces and means be mobilized localing in order to harvest everything that has been raised before the storms and cold weather come and that more sugar be produced from each hectare of sugar beet plantations in Russia. [Excerpts] [Moscow IZVESTIYA in Russian 12 Oct 82 p 1/ 11772

SIBERIAN SUGAR--Barnaul--Farmers of the Altay area have raised a fairly good crop of sugar beets this year. Many farms are harvesting 200-250 and more quintals per hectare. The work has been well organized on the sugar beet plantations of Petropavlovskiy, Pervomayskiy, Tal'menskiy and Bystroistokskiy rayons of the kray. The tone in the competition is being set by the collectives of the Pavlovskiy sovkhos and the Cheremnovskiy sugar refinery which are applying the flow line-transshipment method without manual completion of the cleaning of the roots, which makes it possible to harvest the crop in 16-18 working days and to fulfill the plan for sugar beets by 105 percent. Workers of the sovkhos and processing enterprise, who have organized 24-hour receipt of sugar beets have made it a commitment to obtain no less than 14.5 quintals of white sugar from each hectare. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 6 Oct 82 p 1/ 11772

SUGAR BEET EFFORT--Saratov--Mass harvesting of the sweet roots that were raised this year mainly according to industrial technology has been started by the farmers of the sugar beet growing rayons of the oblast. The harvesting of the crop has been maximally mechanized. Not only the tubers, but also the tops are being removed from the fields. The latter are good feed for animals. Everything that has been raised is to be harvested and preserved--such is the motto of the Saratov workers. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 22 Sep 82 p 1/ 11772

KURSK HARVEST--Kursk--Sugar beets from the new crop have begun to come in to the sugar refineries of Kursk Oblast. The sugar beet growers will have to harvest the crop from an area of 190,000 hectares. The roots are being dug according to industrial technology, for which the farms of the oblast have created almost 500 harvest-transport complexes. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 22 Sep 82 p 1/ 11772

EXAMPLE OF EXCELLENCE--Orel--Sugar beet growers of Kromskiy Rayon, greeting the 60th anniversary of the USSR, have overfulfilled the plan for the sale of tubers to the state. More than 70,000 tons of them have arrived at the receiving point. Each day each combine harvests up to 200 tons of beets. It has been decided to increase the seasonal output per machine to 2,000 tons. Farmers of Orlovskiy Rayon are achieving good results. The harvest is coming to an end here. This work is being done in an organized way on the kolkhozes and sovkhoses of Glazunovskiy, Novodereven'kovskiy, Dmitrovskiy, Sverdlovskiy and Zalegoshchenskiy rayons. [Excerpts] [Moscow SEL'SKAYA ZHIZN' in Russian 16 Oct 82 p 1/ 11772

HARVEST REPORT--The chief of the Rossakhsveklo association, M. D. Sushkov, comments on the course of the harvest. These days people are working hard on the plantations of the republic to complete the harvesting and sale to the state of sugar beets. As of 4 October this crop was harvested from 907,000 hectares, which amounts to 60 percent of the plan. The digging of the roots is proceeding in an organized way in the Tatar and Bashkir autonomous republics and Kuybyshev Oblast where more than two-thirds of the area has already been harvested. Taking advantage of the experience of the best rayons in the country, the Volga workers have come up with an initiative to gather the sugar beet crop in reduced time periods and without losses, and to process it promptly. Unfortunately, such efficiency has not been achieved everywhere. A number of farms are missing the optimal time periods for digging sugar beets. It is October and the beets have been harvested from less than half of the area in Bryansk Oblast. The sugar beet growers are not much further ahead in Ryazan, Belgorod and Kursk oblasts. And such delay leads to large losses of the crop. It is alarming that in recent days the residuals of beets that are left on the fields have been increasing significantly. More than a half million tons of them are on the plantations of Voronezh, Tambov and Lipetsk oblasts. Although the rates of shipment of the roots are increasing, the productivity of the automotive transportation remains low. In the republic as a whole each vehicle transports only 11 tons of beets a day, and in the Checheno-Ingush and Mordovian ASSR's it is one-third this much! Decisive days have come for the sugar beet growers. It is now necessary to organize things in such a way as to complete the harvesting of sugar beets more rapidly. [Excerpts] [Moscow SOVETSKAYA ROSSIYA in Russian 9 Oct 82 p 1/ 11772

FINAL STAGE--Belgorod--The harvesting of sugar beets has entered the final stage in Belgorod Oblast. The rates of work are higher than they were last year. The first to fulfill the plan for the sale of sweet roots to the state was the Kolkhoz imeni XXII s'yezda KPSS in Belgorodskiy Rayon. They have delivered more than 11,000 tons of raw material to the receiving point. Following the example of the leading workers in the oblast, socialist competition has been developed for rapid completion of the harvest. Maximum mechanization of the work contributes to success. More than 400 harvest-transport complexes that are operating on the fields of the kolkhozes and sovkhoses have practically eliminated manual completion of the cleaning of the roots. [Text] [Moscow GUDOK in Russian 15 Oct 81 p 1/ 11772

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LIVESTOCK FEED PROCUREMENT

INCREASING PULSE CROP HARVEST IN ULYANOV OBLAST

Moscow SEL'SKAYA ZHIZN' in Russian 24 Oct 82 pp 1-2

/Article by V. Delin, secretary of the Ulyanov Oblast CPSU Committee: "Irreplaceable Both in the Field and in the Ration"/

/Text/ Taking into account the tasks of the food program, the kolkhozes and sovkhoses in our oblast have developed a system of farming which employs as a reference point the need for raising the cropping power of the pulse crops and expanding the sowings of perennial grasses and rape. This program is dictated by the requirements of life itself: each year the oblast's feed balance falls short by many thousands of tons of protein. This is explained to a large degree by a shortfall in livestock products, by increased feed consumption per unit of such product and by increased production costs for milk and meat.

We attach special importance to the production of peas. First of all, this crop is distinguished by its high food and feed value. In terms of its protein content and value, the caloric value of peas is almost on a par with meat products. Its grain contains approximately 20 percent digestible protein and its straw -- more than 30 percent. The crop exerts a great effect with regard to raising the fertility of soil. We have estimated that approximately 12,000 tons of symbiotic nitrogen accumulate on the pea fields each year during the growing season and this is equivalent to applying roughly 36,000 tons of ammonium nitrate.

For us, peas have become the best predecessor crop for rye and winter wheat. The total yield of pea and rye grain obtained from occupied fallow at leading farms reaches 60 quintals per hectare and the winter crop yields obtained following pulse crops are 9.3 quintals higher per hectare than those following other predecessor crop arrangements. In the case of spring wheat, both the yields and protein content are increasing. But the principal consideration here is the fact that peas serve as a true storehouse for protein for use in livestock production. If the oblast's forage fund was not supplied with 150,000-160,000 tons of peas annually, it would be necessary to allocate 320,000-330,000 tons of cereal grain for feeding to the livestock.

The pea production technology being employed throughout the oblast was developed by scientists at the Ulyanov Agricultural Experimental Station and Agricultural Institute in collaboration with agronomists from leading kolkhozes and sovkhoses. The optimum areas for the crop in the crop structure were defined. During the 10th Five-Year Plan, they reached 18 percent of the grain fields and the average annual

production of grain amounted to 303,000 tons, or 16 percent of the gross yield of grain. The Sovkhoz imeni Krupskaya is listed as one of the leading farms. Here an average of more than 20 quintals of peas is being obtained from each of 3,500 hectares. The Kolkhoz imeni Zhdanov in Veshkaymskiy Rayon, where the chief agronomist is V.A. Molchanov, is praised for its high and stable yields. Even during the drought conditions experienced last year, a yield of 23.2 quintals of peas per hectare was obtained, with 35-40 quintals being obtained during the best years. During the 10th Five-Year Plan, a yield of 21.4 quintals per hectare was obtained from farms in Starokulatkinskiy Rayon from low-fertility soils (evaluation of 50 points). One out of every six fields here was occupied by pea sowings for grain purposes. The Krasnoyarskiy and Cherdaklinskiy Sovkhozes and a training farm of the agricultural institute became true schools for leading experience in the cultivation of peas.

Each year we ship pea seed to 15-20 oblasts and autonomous republics throughout the country. The farms are constantly improving their technology for cultivating such seed. Improvements are also being realized in the varietal structure. The Ramonskiy-77 variety regionalized 20 years ago is being replaced by the more productive Ul'yanovskiy-72 and Neosypayushchimsya-1 varieties, which have a growing season of 70-88 days. The new varieties are characterized by resistance against drought conditions. The Uladovskiy-10 variety, regionalized in 1980, furnishes an average yield of 36-37 quintals per hectare. Over the next 3 years, it must be sown on more than 40 percent of the area used for this crop.

Primary pea seed production in the oblast is concentrated at the agricultural experimental station. Each year, 450-500 tons of super stock seed are sold to the training farm of the agricultural institute. In turn, it supplies elite seed to specialized farms, brigades and detachments and they reproduce it on a mass scale. As a result, sowing operations in all areas are carried out using only high grade seed.

As a rule, concern for a high yield commences with the principal soil cultivation. Extensive use is being made of shallow plowing of the stubble following grain predecessor crops -- an effective method for destroying post-harvest and biennial weeds. Autumn plowing is carried out 15-20 days following loosening to a depth of 28-30 centimeters. A decisive condition for obtaining high and stable yields under drought conditions in the oblast has been and continues to be that of ensuring that a good supply of moisture is made available for the plants. In Ul'yanovskiy Rayon, for example, a campaign to conserve moisture is maintained throughout almost the entire year. By means of snow retention work alone, the moisture supplies in the soil are increased by 30 percent. In the spring, early harrowing is carried out here in two tracks and with levelling off and cultivation to a depth of 8-10 centimeters together with the harrowing.

The mineral fertilizer dosages are determined on the basis of soil-agrochemical cartograms and taking into account the cropping power planned. Based upon recommendations by the Ulyanovsk Agricultural Institute, many kolkhozes and sovkhozes throughout the oblast employ sulphur containing fertilizers. They increase the protein yield by an average of 120 kilograms per unit of space. In Veshkaymskiy, Nikolayevskiy and Novomalyklinskiy Rayons, in order to raise the germinative energy of the seed use is made of air-thermal treatment of the seed. The treatment of the seed with nitragin serves to increase the amount and raise the

activity of nodule bacteria. Use is also made of raised sowing norms, as a result of which the plants acquire a great resistance against lodging and are able to choke out weeds more rapidly. The narrow-row and crossed sowing methods are being employed more extensively.

The country's plant breeders, including our own in Ul'yanovsk Oblast, have accomplished a great deal towards developing not only drought-resistant and highly productive varieties but also varieties which are suitable for mechanized harvesting. Nevertheless, this crop is still considered to be a difficult one with a number of shortcomings: it ripens in an irregular manner, large areas of it tend to lodge and the seed shatters and is partially damaged during threshing. The expertise and skill of the machine operators are still being tested during the mowing and threshing of the peas. The timely harvesting of this valuable food and forage crop without losses invariably results in high yields being obtained. And many of our kolkhozes and sovkhoses have learned how to harvest their peas rapidly and without losses.

This year, for example, the crop had been cut down on practically the entire area by 10 August, with 90 percent of the amount mowed being threshed. As a result, the pea grain yield in Cherdaklinskiy Rayon was 20.9 quintals per hectare, in Staromaynskiy Rayon -- 19.9 and in Ul'yanovskiy Rayon -- 18.1 quintals per hectare. The busy period out on the pulse crop fields has ended earlier than usual, with the required quantities being added to the seed funds. Use of the Ipatovo technology throughout the oblast was of great assistance in achieving high work rates and reducing losses. As always, we harvested our peas in Starokulatkinskiy Rayon earlier than in other rayons. The Bakhteyevskiy and Vyazovogayskiy Sovkhoses and many kolkhozes laid out the crop in windrows in just 75 hours and completed threshing it in less than 75 hours. The rayon was the first to fulfill the state plan and socialist obligations for laying in a supply of select seed for the grain and pulse crops.

There are still many unresolved problems. Pea varieties are required which will have yields on a par with those of spring grain crops. Even during this relatively favorable year, the grain crop yield has exceeded the pea yield by an average of 4.5-5 quintals per hectare. In this regard, the farmers are quite justified in waiting for the plant breeders to provide them with new pea varieties which are resistant to disease and shattering and which have a cropping power of 35-40 quintals per hectare. In addition, USSR Gosplan and the republic's Ministry of Agriculture must employ a more thorough approach in planning the sale of grain to those oblasts and rayons which maintain a considerable proportion of peas in their sowings. Indeed its average cropping power, we repeat, is lower than that for other grain crops.

Each year the oblast's kolkhozes and sovkhoses require 7,500 tons of phosphorus and 5,800 tons of potassium fertilizers (in a conversion for active substance). There are sufficient funds for only 40 percent of the pea sowings. In view of the special national economic importance attached to increasing the pulse crop yields, fertilizers should obviously be allocated for special purpose use. All of the farms are also experiencing a shortage of stubble plow disk harrows and sweeps.

For their part, the oblast's agricultural workers, while implementing the decisions handed down during the May (1982) Plenum of the CPSU Central Committee, intend to do everything within their capability in the interest of achieving a considerable increase in the production of plant protein.

REGIONAL DEVELOPMENT

PARTY PLENUM REVIEWS KAZAKH AGRICULTURAL DEVELOPMENT

Moscow SEL'SKAYA ZHIZN' in Russian 16 Oct 82 p 2

[Article by L. Krinitskiy: "A High Measure of Responsibility"]

[Text] The regular Plenum of the Central Committee of the Communist Party of Kazakhstan has taken place. Politburo member of the CPSU Central Committee and 1st secretary of the Central Committee of the Communist Party of Kazakhstan D.A. Kunayev, delivered a report on the tasks of the republic party organization with regard to further increasing the production of grain, feed and livestock products, in light of the requirements handed down during the May (1982) Plenum of the CPSU Central Committee. After describing the great political and economic importance of the problem under discussion, he placed emphasis upon the fact that the republic's communists are obligated to thoroughly examine it in close association with the fulfillment of the country's food program and the specific contribution being made to this program by the workers of Kazakhstan.

The food program has defined clear tasks for Kazakhstan right up until the year 1990. According to the speaker, in order for these tasks to become a reality a sharp change is required in all economic, organizational and political work aimed at achieving more efficient use of material, labor and financial resources. Throughout the republic there are still many farms, rayons and even oblasts where the production of goods is proceeding very slowly.

Priority importance is being attached to the task of increasing the production of grain. Many opportunities are available throughout the republic for increasing the gross yields of grain. This is borne out by examples drawn from this current year. The year has been marked by a great victory achieved by the workers in Kustanay Oblast. They supplied the granaries of the homeland with 4.04 million tons of grain, considerably more than the figure called for in the plan. The delivery of grain to the state is continuing.

This year it has again become quite obvious that the yields are better in those areas where there is a high culture of farming and where purposeful work is being carried out in connection with introducing scientific achievements and leading experience into production operations. The mastering of correct crop rotation plans represents a tremendous reserve for raising cropping power. The grain growers in Kustanay, Kokchetav, Turgay and North Kazakhstan Oblasts are paying attention to this fact. As a result, many of the farmers in this region are obtaining high yields. Unfortunately however, this does not hold true for the

kolkhozes and sovkhoses in Dzhambul, Taldy-Kurgan, Alma-Ata and Semipalatinsk Oblasts. In analyzing the results of the agricultural year, the speaker and the two individuals who delivered reports during the plenum, the 1st secretaries of the Kustanay and Kokchetav Oblast Party Committees V.P. Demidenko and A.S. Kuanyshiev emphasized that the agricultural leaders and specialists must view in the form of a law the need for carrying out the instruction by Leonid Il'ich Brezhnev, which held that in order to fully ensure against crop failures extreme importance must be attached to improving the structure of the areas under crops and introducing correct crop rotation plans in all areas. Here a chief problem is that of fallow land. The productive strength of a fallow field is generally well known. Nevertheless, an unjustified reduction has taken place in the fallow fields on many farms in Uralsk, Semipalatinsk and other oblasts.

An efficient soil protection system of farming underwent practical testing long ago in Kazakhstan. Its introduction into operations made it possible to reduce wind erosion over vast areas of virgin land and it also promoted improved soil fertility. However, routine agricultural practices predominate at the present time on the non-irrigated lands of many farms in Dzhambul, Alma-Ata and Taldy-Kirgan Oblasts. And this represents one of the chief causes of the low and unstable yields, which are being attributed to poor weather. The task consists of mastering crop rotation plans in all areas during the next 2-3 years, increasing the area of fallow land, ensuring that this land is properly tended, organizing the production of seed, introducing highly productive grain crop varieties, raising the quality of the seed and restoring order in the storage and use of organic and mineral fertilizers. Only by utilizing all reserves in behalf of grain production and displaying genuine concern for the land will it be possible to carry out the task established by L.I. Brezhnev -- to make a grain crop yield of 20 quintals the norm for Kazakhstan.

Those who participated in the plenum took special note of the degree to which buckwheat and millet production have declined. Many farm leaders have rejected these crops in the belief that they "will not grow" here. But this is not so. This year 50 quintals of millet were obtained from each irrigated hectare at the Sovkhoz imeni Chaganak Bersiyev. This implies that the fault does not lie with the weather but rather with the ability to work, an ability which is lacking in the leaders of many farms in Turgay, Semipalatinsk, Pavlodar and Uralsk Oblasts, where the potential exists for cultivating grain crops on an extensive scale.

In Kazakhstan, as mentioned during the Plenum by such speakers as the 1st secretaries of the Alma-Ata and Chimkent Oblast Party Committees K.M. Aukhadiyev and A.A. Askarov, the chairman of the 40 Let Oktyabrya Kolkhoz N.N. Golovatskiy and others, a most important factor for raising the stability of gross output in field crop husbandry is that of radically improving the use of irrigated lands, the overall fund of which already exceeds 2 million hectares here. In the future, the plans call for the creation of zones for the guaranteed production of grain, especially corn, in Alma-Ata, Taldy-Kurgan, Chimkent and other oblasts, through the development of land along the Great Alma-Ata Canal, which is presently under construction, and also on new irrigated tracts of land.

It was noted during the Plenum that the state expects to realize a high return from the considerable funds being allocated for land reclamation purposes. In this regard, the work being performed by the Chimkent Oblast party organization warrants approval. In this oblast, owing to the introduction of an efficient system of irrigation farming, over the past 5 years the production of corn grain increased

by a factor of almost 2.5 and rice -- by a factor of 1.3. However, other examples were also cited during the Plenum. The Uydeninskaya Irrigation System has been built in Eastern Kazakhstan Oblast. It cost the state almost 17 million rubles. But what are the yields here? Last year only 22 quintals of perennial grass hay were obtained here per hectare and grain -- 2.5 quintals per hectare. The leaders of Dzhambul Oblast who tolerated a decline in the development of beet production were sharply criticized during the Plenum. Many shortcomings in the use of irrigated land are also to be found in other oblasts.

The Plenum devoted a great amount of attention to the problem of feed production. Ten million hectares, or almost 28 percent of the arable land, have been set aside for forage crops throughout the republic. In recent years the areas for estuary haying and pasture land have been expanded and the structure for sown grasses has been improved. But feed consumption per standard head of cattle has for all practical purposes not increased. And this is restraining growth in the production of livestock products.

It was mentioned during the Plenum that the party, soviet and economic organs must radically reorganize the work being carried out in feed production and assign it a specialized branch character. Special attention was given to the need for expanding the sowings of alfalfa, peas, soybeans and other crops which furnish not only protein-rich cheap feed but also promote improvements in the fertility of the fields.

Kazakhstan is a large supplier of meat, butter and other products for the all-union fund. During the 15th Congress of the Communist Party of Kazakhstan and subsequent plenums of the Central Committee, the work of each oblast party organization in the management of livestock production operations was analyzed in detail. Specific methods were defined for developing the branch. Many farms achieved growth in their production operations and in the sale of farm products and they increased the numbers and productivity of their livestock.

However, in a number of areas, just as in the past, the branch is being managed in an unstable manner. Its indicators of quality have declined. A reduction has taken place in the number of large-horned cattle. In Tselinograd Oblast, for example, one half of the cows are not producing offspring. Meanwhile, in the interest of maintaining breeding and zootechnical operations, the leaders of this and a number of other oblasts throughout the republic have elected to import livestock from other regions of the country. The practice of delivering low-weight and undernourished animals to the state is continuing. This is being done, for example, at the Mikhaylovskiy Sovkhoz in Tselinograd Oblast. Last year the average daily weight increase in young large-horned cattle stock here was on a par with the weight increase for chicks.

A special discussion took place during the Plenum on sheep breeding. It is still not being developed at the required tempo in all areas and it is sustaining losses mainly caused by murrain. Considerable resources have been invested in the development of this branch. However the return from such investments is still insufficient in a number of oblasts. In strengthening the feed and logistical base for sheep breeding farms, work must also be carried out aimed at intensifying the responsibility of their leaders and specialists for the slow development of the branch, the poor maintenance of the animals and the low yields in young stock and wool.

Concern was evidenced during the Plenum for making preparations for the impending livestock wintering period. Approximately 13 million tons of hay have been laid away -- 84 percent of the plan. Considerably less coarse and succulent feed have been procured than was the case last year. The party, soviet and agricultural organs must undertake additional measures to ensure that these supplies are increased through the addition of straw, chaff and the waste products of public catering enterprises and that the feed is delivered in a timely manner to the livestock wintering areas. All of the feed preparation shops must be placed in operation, so as to ensure that all of the farms utilize only prepared feed and in a thrifty and economic manner.

Within the republic's agroindustrial complex, a greater role must be played by agricultural machine building. Its enterprises are increasing the production of equipment. However, as noted in the speeches delivered by the 1st secretary of the Turgay Oblast Party Committee Ye.N. Auel'bekov and the 1st secretary of the Atbasarskiy Rayon Party Committee K.A. Taukenov, the production of machines for soil-protective farming is being organized all too slowly. The grain growers are waiting impatiently for the moment when the USSR Minsel'khoz mash /Ministry of Tractor and Agricultural Machine Building/ will finally supply farms in the Kazakhstan virgin lands with a complex of wide-swath machines which will make it possible to increase labor productivity considerably, shorten the periods of field work and reduce crop losses during harvest operations.

During the Plenum the Ministry of Railways was criticized for its slow work in restoring order on the railroads, where large quantities of new equipment are becoming dis-assembled during transport. The workers attached to USSR Mintyazhmash /Ministry of Heavy Machinery Manufacture/ are displaying very little concern for the rural areas. The leaders of a number of its subunits at times forget that the agricultural machine building projects include construction projects of special importance, which first of all must be provided with material and labor resources.

The realization of the food program requires a great concentration of resources in behalf of rural construction projects. The level of construction organization in the rural areas is still lagging behind the increasing requirements. Dozens of contractual trusts which are subordinate to union and republic ministries are annually failing to fulfill their plans.

During the Plenum, a great amount of attention was given to such problems as improving the work of rural rayon party committees, the ideological-political training of workers and further expanding the socialist competition.

The Plenum adopted a detailed decree dealing with the problem under discussion, in which emphasis was placed upon the fact that the republic's workers are sparing no effort in their desire to ensure the practical implementation of the decisions handed down during the May Plenum of the CPSU Central Committee and the country's food program and to celebrate the 60th anniversary of the USSR with new labor successes.

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AGRO-ECONOMICS AND ORGANIZATION

AGRICULTURAL SCIENCE OFFICIAL INTERVIEWED ON FOOD PROGRAM

Moscow EKONOMICHESKAYA GAZETA in Russian No 42, Oct 82 p 2

/Interview with president of All-Union Academy of Agricultural Sciences imeni V.I. Lenin, P.P. Vavilov; date and place not specified/

/Text/ /Question/ Petr Petrovich, what are the principal tasks confronting the agricultural science in conformity with the country's food program, as adopted during the May (1982) Plenum of the CPSU Central Committee?

/Answer/ The tasks confronting science in connection with implementing the food program of the USSR were discussed recently during a joint session of a general meeting of the USSR Academy of Sciences and VASKhNIL /All-Union Academy of Agricultural Sciences imeni V.I. Lenin/.

A principal concern with regard to solving the many problems assigned to the scientists is the need for employing an all-round systems approach for uniting the efforts of scientific collectives representing various specialties, regardless of their departmental subordination. The development and practical implementation of more improved methods for utilizing the natural, biological, technical, economic, organizational and social factors and resources must be accelerated in order to raise the efficiency of agriculture and the entire agroindustrial complex.

Special importance is attached to studies aimed at improving the economic mechanism for the management, planning and administration of the agroindustrial complex, for raising the return from capital investments and material resources and for increasing the interest of all production elements in achieving high final results.

An important role is played by studies aimed at developing variants for models of farms and associations of the future and searching for more rational forms of inter-farm cooperation and agroindustrial integration which will furnish a proper return. Compared to the past, there are considerably more agricultural scientists today who are devoting attention to the development of methods for social planning and to those problems concerned with developing the labor collectives of villages and settlements, that is, to a complex of socio-economic problems.

/Question/ Could you discuss for us the organizational work associated with the breeding of new varieties and hybrids of agricultural crops, forms which meet the requirements of the industrial technologies?

/Answer/ The plant breeding centers of the country have been assigned the task of increasing their work of breeding new varieties and hybrids of agricultural crops, forms which will be resistant to unfavorable environmental factors, possess high quality grain, be immune to diseases and pests and meet the requirements of the industrial technologies being employed in field crop husbandry. Comprehensive operations have been organized at many plant breeding centers for the purpose of creating new varieties and plant breeding hothouses, climatic chambers and other installations which make it possible to raise 2-3 generations of plants annually have been placed in operation.

A great amount of work has been carried out in connection with the intensive use of the international gene fund in the plant breeding programs. All of these factors have made it possible to reduce the duration of the plant breeding process by a factor of 1.5-2. During 1981 alone, the scientific research institutes introduced into production operations 79 new varieties and hybrids of cereal grain and pulse crops and corn.

The use of new and more effective plant breeding methods has made it possible to develop and disseminate for production use highly productive varieties which meet the requirements for industrial production technologies. Thus, such new varieties of winter wheat as Odesskaya Polukarlikovaya, Mironovskaya-25, Severodonetskaya, Polukarlikovaya 49, Parus, Pavlovka and some others possess a potential productivity of 70-80 quintals of grain per hectare. Substantial changes have taken place in the varietal regionalization of winter rye -- a traditionally Russian crop. The new low-stalk, non-lodging varieties such as Chulpan, Voskhod-2 and others are capable of furnishing 35-45 quintals of grain per hectare under production conditions.

A number of productive and lodging resistant varieties of spring wheat have been created for Siberia and northern Kazakhstan and also several new varieties of barley.

A large achievement in the breeding of pulse crops was the creation of such non-shattering (following the ripening of the seed) pea varieties as Neosypayushchiysya-1, Voroshilovgradskiy and Yubileynyy, which possess high cropping powers and make it possible, on a more extensive scale, to introduce an industrial technology for the cultivation and harvesting of this crop.

Despite the successes achieved in plant breeding, seed production and in the technologies for cultivating a number of agricultural crops, unsolved problems still persist. Many regionalized varieties of cereal grain crops possess a weak resistance against diseases and pests and low winter hardiness and resistance against drought conditions and lodging.

The breeding of early ripening and mid-season to early ripening hybrids of corn and also sunflower hybrids has fallen behind. Further improvements are required in the varieties of pulse, groat, vegetable, technical and potato crops. Just as in the past, a shortage is being experienced in the varieties of grain and forage crops for irrigated farming.

At the present time, the efforts of leading institutes are concentrated on developing new genetic and physiological-biochemical plant breeding methods which are based upon the latest discoveries in molecular biology and genetics.

/Question/ Could you not inform the readers of this weekly of the measures being undertaken to improve the breeding qualities of the livestock and poultry?

/Answer/ Over the past few years, Soviet scientists, in collaboration with practical workers in livestock production, have created a considerable number of highly productive animals of unique genotypes, which are suitable for industrial technologies and which are officially recognized as breeding achievements. Several new lines and strains of dairy and beef cattle, pigs, meat-wool and karakul sheep and other types of livestock have been bred.

The plans for the next decade call for the breeding of 14 additional new and highly productive strains and pedigree groups, 38 types and more than 100 lines of various types of agricultural animals. The plans also call for methods for improving existing and creating new highly productive pedigree and commodity herds. The animals of newly created strains, types and lines differ in terms of high productivity and suitability for intensive use with industrial technologies and for a high concentration of animals on modern large-scale farms and complexes.

For example, at the Lesnoye and Petrovskiy breeding plants in Leningrad Oblast a new plant type of domestic black-variegated cattle was bred having a productivity during lactation of 5,200-6,300 kilograms of milk and a fat content of 3.78-4.03 percent. Animals of the Chernigovskiy and Pridneprovskiy new-pedigree types of beef cattle are suitable for year-round non-pasture maintenance in the forest-steppe regions of the Ukraine and they retain a high speed of growth (1,200-1,400 grams daily) right up until they are 2-2.5 years of age. Young bulls of these types achieve a live weight of 900-950 kilograms by the time they are 24 months of age. Pigs of the new types, new strains of sheep and poultry crosses are all distinguished by high productivity levels.

/Question/ What are the scientists doing in the interest of developing more progressive technologies for the storage of agricultural products?

/Answer/ One substantial cause of the great losses in products and in the deterioration in their quality is failure to observe the technological storage processes developed by science and leading practice and also the weak introduction into production operations of the achievements of science and leading practice. The scientists, based upon many years of experimentation and experience, have developed recommendations for the storage of potatoes, vegetables and fruit.

Plans have been created for potato storehouses, vegetable storehouses and fruit storehouses for various climatic zones throughout the country.

Various types of packaging materials, needed for ensuring the movement of products and their storage without mechanical damage and losses have been developed and recommended for introduction into production operations on an extensive scale.

In taking note of the scientific achievements, it bears mentioning that certain problems associated with the storage of products have still not been solved. For example, studies concerned with such a promising trend as the freezing of fruits and vegetables are still not being carried out to any great degree. Work aimed at improving and creating new methods for preserving products has been expanded considerably in recent years. However, proper attention is not being given to

so-called simple processing methods -- fermentation and salting -- as a result of which the quality of the products being sold through the trade network is low.

Question What work is being carried out aimed at creating effective means for protecting plants and also methods for preventing and curing animal diseases?

Answer Considerable attention is being given to the development of a leading chemical method for protecting plants. The institutes of the VASKhNIL system, jointly with institutes of the USSR Academy of Sciences and Minkhimprom Ministry of the Chemical Industry are studying the manner in which pesticides work and the relationship between the structure of pesticides and their toxicity for harmful organisms and warm-blooded animals. Special importance is being attached to searching for new and more effective and environmentally safe pesticides in the interest of improving their variety.

The network of toxicological laboratories of the All-Union Scientific-Research Institute of Plant Protection, jointly with the republic scientific-research institutes for plant protection and branch institutes are annually testing more than 150 domestic and foreign pesticides. As a result of tests carried out during 1981 alone, 56 new preparations were recommended for practical use. Work is continuing in connection with improving the less dangerous methods and technologies for employing plant protective agents and developing standard methods for determining the presence of pesticides in biological objects, which are used for exercising sanitary control over the residual quantities of preparations in environmental objects.

In the interest of regulating the use of pesticides, the thresholds of the degree of harm caused by the main harmful types of insects have been developed and defined more precisely by zones of the country, insect types against which protective measures are carried out. Importance is being attached to the use of biological and microbiological methods for protecting plants. In 1981, biological protective means were employed in the USSR on an area of almost 20 million hectares. Among the new trends, a great amount of attention is being given to searching for and using biologically active agents (feromones, hormones) and genetic control methods.

In the interest of solving in a more effective manner those problems concerned with protecting plants using chemical and biological methods, the institutes of the USSR Academy of Sciences, Minkhimprom, the Ministry for the Production of Mineral Fertilizers and Glavmikrobioprom of the USSR Council of Ministers should intensify their work of searching for, synthesizing and producing new pesticides and developing technologies for the industrial production of microbiological preparations, since these problems are not receiving the attention of institutes within the VASKhNIL system.

In connection with specialization and concentration in livestock production, converting it over to an industrial basis and developing inter-farm cooperation, the role played by veterinary science and practice has increased even more. During the past few years, the scientific-research veterinary institutes have created and are introducing effective means and methods for diagnosing and preventing various infectious diseases in animals. The means and methods have been developed for the carrying out of aerosol vaccinations of pigs and poultry at pig raising complexes and poultry factories. New disinfection equipment and the means and methods for

the disinfection of livestock facilities have been created. When the aerosol method of disinfection is employed, the expenses for disinfecting agents are reduced by a factor of 2-3 and a savings is realized in working time.

Intensive studies are being carried out aimed at developing more improved means and methods for preventing infectious diseases in animals, based upon theoretical studies in molecular biology, immunology and virusology, for such diseases as tuberculosis, brucellosis and leukemia, in accordance with which all-round studies are being carried out with the USSR Academy of Sciences and the USSR AMN [Academy of Medical Sciences].

[Question] What work is being carried out by the scientist-economists in connection with improving the wage system in agriculture?

[Answer] A most important trend in wage studies is the development of proposals and recommendations for stimulating the final results. The initial results of these studies are reflected in the "Recommendations for Organizing Cost Accounting Subunits With a Job Contract Plus Bonus Wage System and Hourly Rate Advances in Field Crop Husbandry (group contract).

A considerable amount of work has been carried out in connection with further improving the work rate scales in agriculture.

A thorough theoretical analysis and generalization of leading experience for a broad range of problems associated with group wages are being carried out for the future. Simultaneously with the problem of material stimulation of labor, attention is also being given to working out those problems concerned with moral stimulation and organization of the socialist competition.

At the same time, one cannot help but note that certain scientific-research institutes are not devoting proper attention to the development of a number of vital problems. For example, the Presidium of VASKhNIL and the Board of the USSR Minsel'khoz [Ministry of Agriculture] discussed the work of the All-Union Scientific Research Institute for the Electrification of Agriculture and VIM [All-Union Scientific Research Institute of Agricultural Mechanization], which by no means have succeeded in coping with their assigned tasks. Improvements in the quality of the work being performed by all of the scientific collectives will promote the successful implementation of the food program.

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AGRO-ECONOMICS AND ORGANIZATION

MAJOR SCIENTIFIC CONFERENCE DISCUSSES FOOD PROGRAM

Moscow SEL'SKAYA ZHIZN' in Russian 26 Sep 82 p 2

/Article by V. Shaykin, V. Fofanov and Yu. Savin: "Food Program and the Tasks of Science"/

/Text/ The implementation of the food program adopted during the May (1982) Plenum of the CPSU Central Committee constitutes an important part of our party's economic strategy and it is a decisive condition for raising the welfare of the people. The realization of the program requires the extensive use of scientific and engineering achievements and leading experience. At the same time, a requirement exists for a further intensification of studies and design developments and the rapid utilization of the results of such work in production operations in all branches of the country's agroindustrial complex. In the interest of examining and discussing the tasks of scientists in this regard, a joint session of a general meeting of the USSR Academy of Sciences and a general meeting of the All-Union Academy of Agricultural Sciences imeni V.I. Lenin was held in Moscow on 22 September.

It was opened by the president of the USSR Academy of Sciences, Academician A.P. Aleksandrov. He emphasized that the 26th party congress had tasked the USSR Academy of Sciences and VASKhNIL /All-union Academy of Agricultural Sciences imeni V.I. Lenin/, other scientific institutes throughout the country and the USSR Ministry of Higher and Secondary Specialized Education with intensifying that work aimed at transforming and improving agricultural production. The president directed attention to the need for providing more complete and thorough support for the measures being carried out in all branches of the APK /agroindustrial complex/ and he mentioned a number of large-scale problems upon which the academy's scientists are working jointly with VASKhNIL -- this includes raising the technical potential in agriculture, increasing the reliability of the machines and improving their utilization, plant and livestock breeding, the development and use on a mass scale of new methods for protecting them against diseases and pests, improving the soil-protective systems of farming and improvements in biotechnologies. Collaboration among the scientists is becoming more extensive and fruitful. Many scientific centers of the academies of sciences of union republics are participating in studies associated with implementation of the food program. All of this is making it possible to solve completely both the overall national economic problems as well as regional ones.

An especially vital task is that of accelerating the use in production of achievements already available in the fundamental and applied sciences and the

latest technical developments for further intensifying agricultural production, for raising the culture of farming and livestock production and for the storage, processing and transporting of food products and all types of raw materials.

Reports were delivered during the session by the vice president of the USSR Academy of Sciences Academician Yu.A. Ovchinnikov and the president of VASKhNIL and corresponding member of the USSR Academy of Sciences P.P. Vavilov.

Scientific Potential -- In Behalf of the Five-Year Plan

Never before has our country possessed such great scientific-technical potential for improving both the national economy and the living conditions of our people as it does at the present time. This also applies to the scientific sphere, the work of which is aimed directly at developing the agroindustrial complex. As Academician Yu.A. Ovchinnikov stated in his report, the development and implementation of the food program will be recorded in the history of the Soviet State as one of the great accomplishments of our party and the entire nation. It convincingly demonstrates to the entire world the vital force of the principles which form the foundation of our system and the great wisdom and humanism of Lenin's teachings.

Science must play an especially great role in the realization of the food program. Unless use is made of the achievements of scientific thought, it will be impossible to achieve a sharp increase in the production of food products in our country, which by no means enjoys very favorable conditions for agriculture, or to ensure highly productive work by all elements of the agroindustrial complex associated with the mechanization and automation of operations and the storing, transporting and marketing of products. Moreover the specific nature and scales of current activity by the APK often require a reexamination of long-held notions, the use of progressive and modern technologies and more effective economic levers and improvements in control.

Academician Yu.A. Ovchinnikov also discussed the results of joint studies in genetics and the breeding of plants and animals, protecting them against diseases and pests, the development of biotechnologies, field crop husbandry, the soil science and the use of the latest scientific-technical means and he underscored the need for strengthening and expanding collaboration among scientists and practical workers.

According to the president of VASKhNIL, P.P. Vavilov, the role played by science in connection with the program for consistently intensifying agricultural production, raising its effectiveness and optimizing the use of available resources is increasing considerably. Intensification is not only a concentration of forces and resources on a definite land area, but rather it represents mainly a qualitative change in the production resources themselves and in the work methods, that is, in the final analysis, the level of utilization of science in production.

As emphasized by Leonid Il'ich Brezhnev during the May (1982) Plenum of the Central Committee "...the chief concern today and even moreso tomorrow is that of raising the cropping power. This requires advancing breeding and seed production into the foreground." It was by no means an accident that special attention was given during the session to the intensification of breeding work and to the development of new varieties and hybrids for all crops that possess a high cropping power and are suitable for mechanized cultivation and harvesting.

Over the past few years, the scientific-research network of VASKhNIL has been strengthened and expanded and specialized breeding centers organized. At the present time, 50 such centers are engaged in the creation of plant varieties and hybrids. Highly productive short-stalk varieties of wheat, dwarf and polyploid types of rye, non-shattering peas, wilt resistant cotton, high quality potatoes and vegetable and other crops have been bred.

During the 10th Five-Year Plan, 723 new varieties and hybrids of different crops were regionalized. However the president stated that the further development of breeding work will depend to a great extent upon strengthening the logistical base of the breeding centers.

The task also consists of cultivating the existing varieties in a better manner and reducing considerably the difference between their possible and actual cropping powers on all farms throughout the country -- the potential of many varieties is at best being realized to only 50 percent. Varieties of the intensive type require good agricultural practices, the observance of these practices in keeping with their characteristics, applications of adequate amounts of fertilizer and so forth. Thus their appearance out on the fields must be accompanied by improvements in the overall culture of farming. An important factor in this regard could be the use of industrial technologies, as developed by science and operational practice, for the cultivation of corn, sunflowers, sugar beets, cotton and other crops.

"The All-Union Institute of Field Crop Husbandry engages directly in breeding work and provides the initial stock required for such work" stated the director of VIR /All-Union Scientific Research Institute of Plant Growing/ and VASKhNIL Academician V.F. Dorofeev in his speech. For more effective carrying out of modern breeding programs, the research associated with studying and utilizing the international gene fund for cultivated plants should be reorganized to a substantial degree. The institute is making varieties available which have more valuable characteristics, it has intensified its studies associated with checking them for donor qualities using the method of selection-genetic analysis and this is making it possible to uncover, in a more rapid and improved manner, specimens possessing economically valuable qualities and to influence actively the course of breeding work.

A scientist has reported that donors for short-stalk rye have already been set aside and sent to research centers, donors which are providing new opportunities for the breeding of such rye. The same holds true for donors for non-shattering and the polycarpic effect in peas, single-seed and non-bolting in beets; wilt resistance and dwarfness in cotton, immunity against brown rust and powdery mildew in wheat and rye, against phytophthora and canker in potatoes and against loose smut in wheat and barley. Valuable initial forms have also been uncovered, forms which are required for the breeding of early ripening and immune varieties and hybrids of plants which are lodging resistant and have the cropping power parameters called for in the food program.

Studies being carried out in genetics and molecular biology, remote hybridization, polyploidy, mutagenesis and genetic engineering, which have undergone extensive development in recent years, are opening up new opportunities for creating basically new forms of plants that are capable of revolutionizing farming. The creation of the new grain-feed crop tritikale -- an intergeneric hybrid of wheat and rye being sown at the present time on more than 350,000 hectares -- serves as an example of the successful use of remote hybridization and polyploidy properties. The culturing

of tissues outside an organism is presently providing scientists with broad opportunities for creating the required plants. This method is being employed for the rapid reproduction and sanitation of seed potatoes, beets, strawberries and carrots.

A study of the international gene fund, using the methods of molecular biology and immunichemistry, has made it possible to develop the means for marking genomes and other genetic plant systems on the basis of proteins and, more exactly, to solve those problems concerned with their origin, classification, the identity of varieties and hybrids, the analysis of populations and the registration of all plant resources in the interest of their proper accounting, preservation and utilization for breeding purposes.

"A special role in the intensification of breeding work must be played by studies carried out at the junction of genetics and physical-chemical biology" stated the director of the Institute of General Genetics of the USSR Academy of Sciences VASKhNIL Academician A.A. Sozinov, "Work carried out on wheat and barley at the All-Union Plant Breeding and Genetics Institute (city of Odessa) and at the Institute of General Genetics have shown that various allele units of components of reserve protein-prolamines are accompanied by variability in such economically valuable characteristics as productivity, grain quality and stability in the face of low temperatures, drought conditions and diseases. This makes it possible to make a judgement regarding plant properties based upon the protein spectrum, to "design" genotypes in a purposeful manner and to carry out seed production on a genetic basis."

Genetic studies are extremely necessary today, continued the scientist, but it is my opinion that the rates for their development are completely inadequate. The fact of the matter is that in the absence of such work, we are unable to solve many tasks of the times and particularly those which will be confronting us in the immediate future. Although we occupy first place throughout the world in the gross yields of barley, sunflowers and sugar beets, we nevertheless are carrying out almost no fundamental work whatsoever in the genetics of these crops. Nor is the situation any better in the case of corn, peas or lupine.

Thought must be given to utilizing in a more rapid manner in actual practice the results being obtained at academic institutes. Here we encounter a paradoxical situation: wonderful varieties of potatoes have been created at the Institute of General Genetics. They are resistant against diseases, early ripening and in terms of cropping power they surpass regionalized varieties by 100-180 quintals. But the academic institute is unable to organize their seed production, while at the same time organizations which are obligated to carry out this work avoid in every possible way the "reproduction" of alien varieties. A requirement exists for a reliable system which will make it possible for the achievements of academic institutes to be introduced rapidly into production operations.

Many of those who participated in the session underscored the critical need for improving seed production and introducing the new varieties and hybrids into production operations out on the fields and in the orchards and hothouses.

The director of the Scientific-Research Institute of Horticulture for Siberia, VASKhNIL Academician I.P. Kalinin, emphasized that we presently have varieties

available which are making it possible to obtain high yields everywhere throughout the country, obviously assuming the use of the correct agricultural practices. Examples of this -- the OPKh's /experimental model farm/ of institutes and leading farms in general.

The scientists have developed new technologies for the cultivation not only of field crops but also vegetable, fruit and berry crops, which will ensure high yields for them. For example, the conversion over to high density plantings of apple and pear trees tends to double their yields. Combined with a more rational formation of the tree crowns, this makes it possible to obtain 500 or more quintals of fruit per hectare in the southern zone for horticulture and even in the Altay region -- up to 300 quintals of apples and sea buckthorn and 150 quintals of European black currants. But the rapid conversion over to such orchards requires intensive nursery operations and more extensive cultivation of high quality planting stock. As yet, only the NPO's /scientific production association/ in Moldavia and Uzbekistan and also individual scientific institutes are producing elite planting stock for fruit crops. And only these NPO's.

Many of those who spoke during the session emphasized that the new varieties and hybrids and also the seed and planting stock must meet the requirements of the industrial technologies and all studies in this area must be directed towards the organization of modern intensive seed production operations.

For All Elements of Intensification

Agriculture is a very complicated and complete biological system of reproduction of energy which operates with the participation of natural, social, economic and technical factors. The task consists of raising its efficiency. The industrialization of agriculture will continue in the future -- it is a requirement of the times. However, as noted by those who participated in the session, we must bear in mind that purely mechanical growth in the capabilities and utilization of resources and materials of industrial origin only partially ensure growth in production. The effectiveness of their utilization must be raised.

Studies have shown that an intensification of the technical arsenal and growth in the use of energy must be combined organically with qualitative changes in the production methods, orientation must be directed towards energy and resource conserving technologies, with strong improvements required with regard to raising the energy and biological effectiveness of the entire system of agricultural production. The principal means for achieving this -- maximum utilization of the biological potential of the land, plants, animals and other natural resources, raising the coefficient of assimilation of solar energy and increasing the potential of the plants themselves. The scientists emphasized the fact that over the past few decades approximately one half of the increase in field crop husbandry output was obtained owing to the use of fertilizers -- this is a most important factor for raising soil fertility. In the interest of realizing further improvements in cropping power, the plans call for a considerable increase in fertilizer deliveries to agriculture, improvements in the quality of the mineral fertilizer and in the return realized from its use and also an expansion in the use of organic fertilizers.

The agricultural chemists, geologists, technologists and economists, as reported by corresponding member of VASKhNIL V.G. Mineyev, have determined the country's

farming requirements with regard to fertilizer volumes and volumes and taking into account the needs of each zone. Dozens of research and other institutes participated in this large-scale inter-departmental undertaking concerned with the problems of employing chemicals in agriculture. The raw material resources, processing technologies and the proper systems for transporting the agrochemical raw materials and fertilizers were determined. Scientifically sound recommendations for the effective use of fertilizers for individual crops and in crop rotation plans were prepared for all of the farming zones.

The fertilization systems take into account not only the effect of the fertilizers on plant productivity, the quality of a crop and soil fertility but also upon the farm economies and the surroundings. Here the effect of nutrients on plants is raised by 15-20 percent.

Those who participated in the session noted a persistent need for intensifying the geological studies of the agrochemical raw materials, particularly phosphorus materials. Academician A.L. Yanshin mentioned that large scale deposits of phosphorus fertilizer have been uncovered in the eastern part of the country. These supplies should satisfy for an extended period of time the phosphorus fertilizer requirements of Siberia and the Far East. And the need here for such fertilizer is very great, since the soil in these large agricultural regions is on the whole very poor in phosphorus. Up until now, the principal source of nutrition for the crops grown here has been the natural resources found in the soil and these, as is well known, are not infinite and thus the growth in cropping power is limited. Meanwhile, on a vast portion of the country located to the east of the Urals, the effectiveness of mineral fertilizers, especially nitrogen and phosphorus fertilizers, is rather high. Even comparatively low dosages of these fertilizers, applied to the country's entire grain area, will produce no less than 18 million additional tons of grain annually.

VASKhNIL Academician N.Z. Milashchenko noted that the data obtained from extensive production experiments refutes the opinion still held in a number of departments concerning the low effectiveness of fertilizers in the eastern regions of the country. At experimental farms of the Siberian Scientific Research Institute of Agriculture, success was achieved in raising the cropping power of the grain crops from 15 to 20 quintals. This was achieved during one five-year period, over an area of tens of thousands of hectares, by applying only 40-45 kilograms of active mineral fertilizer per hectare. Such yields can be obtained in zones where approximately 300-350 millimeters of precipitation fall annually only if farming is carried out on a strictly scientific basis. This consists of zonal farming systems which were developed by scientists and checked in actual practice at hundreds of leading farms, with the systems themselves comprising scientifically sound crop rotation plans, anti-erosion soil cultivation, a fertilization system and so forth.

VASKhNIL Academician A.I. Barayev emphasized that our country's methods of soil-protective farming are now being employed on an area of 44 million hectares. But the complete mastering of these methods in all of the country's arid steppe regions, without which it would be difficult to achieve stable yields, requires the mass production of more improved types of anti-erosion equipment, in conformity with the diverse soil-climatic conditions, crop rotation plans and crops sown. Up until now, there have been many bottlenecks in this work. They must be overcome as rapidly as possible. And here a great deal depends upon the designers and machine builders.

The high level of responsibility of scientists and industrial workers for the rapid completion of all-round mechanization of farming and livestock production was discussed during the session by the chairman of USSR Goskomsel'khoshtekhnika L.I. Khitrin, corresponding members of the USSR Academy of Sciences K.V. Frolov and A.I. Manokhin, VASKhNIL Academician V.A. Kubyshev and by member of the Board of the USSR Ministry of Tractor and Agricultural Machine Building I.P. Ksenevich. One fact underscored the scale of the problem: during the current decade, twice as many machines must be mastered compared to the number for the preceding 10 years. The speakers mentioned first of all the need for satisfying the equipment requirements of the rural areas and mastering the production and use of entire systems of machines for industrial technologies. A lack of balance in the deliveries of technical equipment lowers the effectiveness of use of the machine-tractor pool and constitutes one of the principal causes of the great expenditures of manual labor out on the fields and farms.

All work concerned with raising the technical level, reliability and durability of the agricultural machines requires special assistance from the fundamental and applied sciences. In the reports and speeches, mention was made of the fact that great importance will be attached to introducing new methods, as introduced by the scientists, for strengthening the parts and units of machines using laser equipment and powder metallurgy. The development and use of rational methods for the planning of support systems, drive mechanisms and more improved working organs for the agricultural machines require a great amount of attention. Agriculture is experiencing an acute need for environmentally stable paint and varnish materials and effective means for the preservation of machines. The equipment being delivered to the rural areas must satisfy the normal working conditions and conform fully with the ergonomic requirements.

Those who participated in the session also devoted a great amount of attention to the problems concerned with intensifying livestock production operations and achieving improvements in breeding work and especially in feed production.

"There is no profit in maintaining a poor cow and there is even less profit in feeding a good cow poorly" stated VASKhNIL Academician A.P. Kalashnikov, "The genetic potential of our strains is rather high. For example, in young cattle stock it is such that it is possible to obtain an average milk yield per cow, for the country as a whole, of 3,000-3,500 kilograms and to more than satisfy the requirements for such animals. However, support in the form of increased quantities of feed is not increasing: in 1970 the consumption of feed per standard head was 26 quintals of feed units and in 1980 and 1981 it remained more or less at the same level. Thus a maximum amount of effort must be directed towards increasing the production of feed, improving its quality, allocating the funds and fertilizer required for this purpose and organizing the production of preservatives and modern and highly productive machines."

Those scientists engaged in developing biotechnologies for obtaining nutrient yeasts, protein additives and physiologically active, curative and other substances must increase to a substantial degree their contribution towards development of the feed base. This point was emphasized by Academician A.A. Bayev. Only weak use is being made of the available resources and here there are many new and promising developments which require study and use in agriculture. An academician of the USSR Academy of Medical Sciences V.M. Zhdanov and other

scientists dedicated their speeches to the need for combating animal diseases and preventing livestock losses.

A task of paramount importance is that of properly protecting all of the crops grown. The possibility of achieving a considerable increase in the food product resources is directly dependent upon solving this task. Moreover, during their storage stage, it is possible to realize maximum results with comparatively minimal expenditures. In view of this fact, as pointed out by the president of the Academy of Sciences for the UkSSR Academician V.Ye. Paton, our academy is actively striving to create new technologies for the storage of agricultural products which are making it possible to reduce product losses considerably. Thus a proposal has been made for storing sugar beets using carboammonia. This method makes it possible to protect root crops which have been placed in clamps from rotting and also to preserve their technological qualities. The use of this method at sugar plants in the Ukraine has proven to be highly effective. A committee of experts from USSR Gosplan has already approved an energy-conserving technology for preserving forage grain using carboammonia salts, with such grain having a high moisture content. Such preservation work is cheaper by a factor of 1.5-2 than the traditional drying method. Moreover, the treatment of forage grain using such salts serves to fully retain and even improve their feed properties. The scientist emphasized that a more decisive approach must be employed for the chemical preservation of grain and other feeds as the most promising method for preserving them with minimal nutrient losses.

Academicians V.A. Engel'gardt and M.S. Gilyarov, corresponding member of the USSR Academy of Sciences N.N. Mel'nikov and other scientists discussed methods for creating new and effective means for protecting plants against diseases, pests and weeds and for improving integrated systems for accomplishing this. The president of the Academy of Sciences for Kazakhstan Academician A.M. Kunayev and the president of the Academy of Sciences for Moldavia and corresponding member of the USSR Academy of Sciences A.A. Zhuchenko dedicated their speeches to the real contribution to be made by scientists in solving the food problem.

For Accelerated Development of the APK

The carrying out of the food program is considered to be a socio-economic task. Thus, in solving it, special importance is attached to those measures aimed at perfecting the economic mechanism and improving control over all subunits of the agroindustrial complex.

Those who spoke during the session underscored the need for developing recommendations for improving the structure of the agroindustrial complex, validating the measures required for creating equal economic and legal relationships among its individual branches and converting over to methods for special purpose program planning. A vital need also exists for scientifically sound recommendations for optimizing the intra-branch proportions and the balanced development of field crop husbandry and livestock production and for achieving more rational utilization of fixed productive capital and working capital and also land, water, power engineering and labor resources. A need also exists for carrying out studies at the regional level in connection with balancing the plans for developing the farming and livestock production systems and forming them into individual regional systems for agricultural management, while taking into account the

requirements for completeness and achieving scientific-technical progress. At the enterprise level, importance is attached to solving such vital tasks as: determining the most effective forms for labor organization and wages, forms which stimulate to a maximum degree socialist enterprise and the labor activity of collectives, their subunits and individual workers and also forms and methods for the intensive and rational use of resources, with local conditions being taken into account to the maximum possible degree.

VASKhNIL Academician V.A. Tikhonov, Academician T.I. Zaslavskaya and other participants in the session dedicated their speeches to the problems concerned with perfecting control and planning and to improving the economic mechanism proper. They emphasized that the time is at hand for studying more closely the problems associated with exercising control over the agroindustrial complex at the various levels. The most rational forms for combining the territorial and branch principles of control and measures for developing cost accounting relationships must be studied and defined, taking into account the technologies for and the peculiarities of production organization.

"Today it is obvious to everyone" stated the vice-president of the Academy of Sciences for the Ukrainian SSR academician of VASKhNIL L.I. Lukinov, "that in addition to strengthening the centralized planning basis for achieving optimum functioning of our economy, a requirement also exists for redirecting the economic interests of labor collectives towards direct cost accounting interest and responsibility for the effective use of potential resources, profitable farm management, the acceptance of tense plans and towards satisfaction of the consumer requirements with regard to the quantities, quality and prices for products produced. This will require the creation of economic conditions which will make it possible for each farm, industrial enterprise and association to be reimbursed fully for its expenditures, contribute the required proportion of its net income to the state budget and to use internal funds for savings and issuing incentives, that is, to manage its operations based upon the principles of socialist cost accounting."

The scientist devoted special attention to improving economic relationships between the branches of the agroindustrial complex and to the formation of prices for industrial and agricultural products. He reported that the Institute of Economics of the Academy of Sciences for the Ukrainian SSR had developed a method for analyzing price balancing between associated spheres of the APK. It makes it possible to compute accurate quantitative deviations from the equivalence status and to determine which factors bring about changes in the indicators for economic profitability. Thus a proposal was made for introducing a coefficient for price parity on a scientific basis, so as to make it possible to eliminate all of the non-equivalent actions.

Academician N.P. Fedorenko discussed the use of economic estimates of natural and labor resources in the practice of planning and taking into account farm activity. He is of the opinion that such estimates provide the best means for smoothing out the conditions of economic activity and raise economic responsibility for the rational utilization of all resources. By way of an example, he pointed out the experience accumulated in the Kirghiz SSR, where a system of making payments for water usage for irrigation purposes has been in existence for approximately 15 years. According to information supplied by the republic's Minvodkhoz /Ministry of Land Reclamation and Water Resources/, following the introduction of this method the consumption of water per unit of output at kolkhozes and sovkhoses

decreased by 10 percent and labor productivity for workers attached to the water economy was raised. Within the republic, control is being exercised over water consumption at all intake points from the irrigation systems. Moreover, this measure has not required additional state investments.

The scientist reported that during the 10th Five-Year Plan the USSR Academy of Sciences and the USSR State Committee for Science and Engineering prepared a draft method for carrying out an economic evaluation of important natural resources, one which contains recommendations for evaluating agricultural, forest and water lands. This document brought forth positive responses from dozens of interested ministries and departments and yet it has still not entered into use.

The food program has confronted the social sciences with a number of complicated problems, particularly those sciences concerned with social development in the rural areas. The scientists emphasized that the studies in this area must include such problems as the style of life, the system of resettlement, the psychology and sociology of labor collectives, the attitude towards labor, rural demography and the migration of manpower and its regeneration. In short, a science must be developed which has a rural worker serving as the principal figure in the activity of the APK.

The scientists agreed unanimously that a narrow-departmental and branch approach for providing scientific support for and practical implementation of the food program is unacceptable. The task of scientists not only within the VASKhNIL system but also those attached to the USSR Academy of Sciences and all branch ministries is that of reorganizing their work such that it meets the requirements not of just one phase of food production, but rather the requirements of the country's APK as a whole and to form a single and complete complex of sciences, the goal of which will be comprehensive scientific support in behalf of successful fulfillment of the food program, improvements in planning and in the coordination of studies, the introduction of such studies into production and the development of all-round special purpose programs of an inter-departmental nature oriented towards the final result.

A detailed decree was adopted in connection with all of the problems discussed during the session.

The following participated in the work of the session: member of the Politburo of the CPSU Central Committee and secretary of the CPSU Central Committee M.S. Gorbachev, secretary of the CPSU Central Committee M.V. Zimyanin, deputy chairmen of the USSR Council of Ministers N.K. Baybakov, I.I. Bodyul and G.I. Marchuk, department heads of the CPSU Central Committee V.A. Karlov and S.P. Trapeznikov and the heads of ministries and departments.

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AGRO-ECONOMICS AND ORGANIZATION

MEASURES TO STRENGTHEN LAGGING EQUIPMENT, MATERIAL SUPPLY

Moscow MATERIAL'NO-TEKHNICHESKOYE SNABZHENIYE in Russian No 9, Sep 82 pp 3-11

[Article by N.V Martynov, deputy chairman of the USSR Council of Ministers and chairman of USSR Gossnab: "In Behalf of the Soviet People"]

[Text] The May (1982) Plenum of the CPSU Central Committee was an event of historical importance in the life of our party and all Soviet people. The USSR food program for the period up to 1990, as examined and approved during the Plenum, signifies a new and historically important step being taken towards carrying out the party's program aimed at improving the national welfare.

The Plenum defined a broad complex of measures, the goal of which is to supply the population of the country with food products in a reliable manner and as rapidly as possible. "In addition to being of priority importance from an economic standpoint" emphasized the general secretary of the CPSU Central Committee and chairman of the Presidium of the USSR Supreme Soviet Comrade L.I. Brezhnev, "this task is also of vital socio-political significance."

Over the past few years, the Party, Central Committee and the Politburo have carried out a great amount of work in connection with raising agricultural production, achieving improvements in other branches of the agroindustrial complex and increasing the country's food resources. The logistical base for farming and livestock production has been strengthened considerably. The use of chemical processes and land reclamation operations have undergone accelerated development. New branches for providing services for agriculture have been created -- machine building for livestock production and feed production, rural construction, the mixed feed and microbiological industry. Agricultural machine building has undergone further development. The production capabilities of organizations engaged in the procurement, storage and processing of agricultural products have been increased. The fixed productive capital of the food branch of industry has increased by a factor of 2.7 over the past three five-year plans.

The social-domestic living conditions of the rural population have been improved substantially. The wages of agricultural workers have been increased by more than twofold. Approximately 500 square meters of housing space, many childrens' institutes, clubs and palaces of culture have been built.

All of this made it possible, despite a number of years considered to be extremely unfavorable from the standpoint of weather, to raise the average annual production

of grain to 205 million tons during the 10th Five-Year Plan, compared to only 130 million tons during the five-year plan which preceded the March (1965) Plenum of the CPSU Central Committee.

Meat production increased by a factor of 1.6, milk -- by 1.4 and eggs -- by a factor of 2.2. Considerable increases took place in the production of vegetables, fruit and berries.

And although the country's population increased by 35 million persons compared to the figure of 1965, the per capita consumption of meat and meat products increased by 41 percent, milk and dairy products -- by 25 percent and eggs -- by almost twofold. The percapita consumption of vegetables increased by more than one third, sugar by 30 percent and vegetable oil by 24 percent. Today the task has been assigned of achieving new and higher goals in the production and consumption of food products, such that the demand for such products as groats, confectionery products, margarine, eggs and fish will be satisfied completely during the current decade and considerable improvements will be realized in supplying the population with meat, milk, vegetable oil, vegetables and fruit.

These goals will be served by the food program of the USSR. Its principal feature will be that of coordinating and uniting the work of agriculture itself and its service branches and subordinating all of their activities to the one common goal -- the production of high quality food products and delivering them to the consumer without losses. Here exceptional importance is being attached to raising the operational efficiency of the entire agroindustrial complex and achieving a decisive conversion over to intensive growth factors. "This method" it was noted during the Plenum, "is the most effective and practically the only possible one available for solving the food problem."

The nature and scale of the tasks called for in the food program are imposing high requirements with regard to the work to be carried out by all elements of the national economy, including those elements which organize and carry out logistical support.

Tremendous material resources are being allocated for implementation of the food program. Over the course of the decade, agriculture must be supplied with approximately 3.8 million tractors, not less than 200,000 excavators, 215,000 bulldozers, 1.17 grain harvesting combines and other agricultural machines, the overall value of which will range from 67 to 70 billion rubles.

Considerable increases will take place in the deliveries of materials, equipment and machines for land reclamation and for applying chemicals to land. For example, mineral fertilizer deliveries to the rural areas must be increased by a factor of 1.7 during the decade.

The volume of material resources allocated for the food branches of industry, state trade and consumer cooperation will be increased. During the decade, they must be supplied with 15-17 billion rubles worth of technological equipment alone. This underscores the considerable growth taking place in the scales of work associated with providing support for agriculture and its associated branches. At the same time, the requirements with regard to the quality of the materials and equipment being delivered and the completeness and rhythmical nature of the deliveries are being raised.

All of this requires a new and more responsible approach to organizing logistical support for the branches of the agroindustrial complex. Here we have in mind not only accurate fulfillment of the delivery tasks, but also constantly searching for methods for improving this work and finding additional resources for agriculture and its associated branches.

Special importance is being attached to ensuring that all of the resources allocated for the agroindustrial complex in accordance with the 1982 plan are delivered precisely according to schedule and in the proper amounts. Comrade L.I. Brezhnev, when speaking before the Plenum, placed special emphasis upon this year for implementing the food program, since there are a number of tasks requiring immediate solutions. One of them consists of harvesting this year's crops in an organized manner and without losses and ensuring that they are properly preserved and processed on a timely basis.

The majority of the collectives within the USSR Gosplan system are coping successfully with the tasks for delivering the material resources allocated for these purposes. The deliveries of motor vehicles, tractors, agricultural equipment, cable and electrical engineering products, industrial rubber products, mineral fertilizers, piping and many other types of products are being carried out in accordance with the schedules and without delays.

At the same time, the rural areas are not being supplied with the required volumes of rolled metal and lumber, despite the fact that only small quantities are required. This problem is of particular importance at the present time in view of the fact that the May Plenum called for a considerable intensification in production and housing construction in the rural areas. The workers attached to Soyuzglavmetall /Main Administration for Interrepublic Deliveries of Metal Products/, Soyuzglavles /Main Administration for the Supply and Marketing of Wood Products of USSR Gosplan/ and the corresponding subunits of territorial organs must ensure strict order in the deliveries of rolled metal and lumber to agriculture.

Delays are taking place in the deliveries of certain types of products to the food branches of industry. In order to correct the problem, USSR Gosplan adopted a decree calling for priority deliveries of materials, equipment and machines to these branches regardless of the level of fulfillment of production plans. Strict control must be established to ensure that this decision is carried out on an absolute basis. It is known that the untimely processing of food raw materials (for example, sugar beets) leads to a sharp reduction in the volumes of finished food products produced from them. Thus control over the deliveries to these branches of the agroindustrial complex must not be relaxed even for one minute.

In the all-round mechanization of agricultural production and the re-equipping of the food branches of industry on a new technical basis, an important role must be played by the organs of USSR Gosplan. The Plenum of the CPSU Central Committee assigned the task of steadily raising the technical level, quality and reliability of the equipment, machines and implements to be used in farming, livestock production, feed production and other branches of the agroindustrial complex and to lower in a consistent manner the materials intensiveness of the equipment being produced. Thus a special concern of Soyuzglavsnabsbyt and the territorial organs of USSR Gosplan must be that of logistical support for the production of new and efficient types of machines and equipment for agriculture, the food branches and the procurement and other associated branches.

Here great importance is attached to the timely deliveries of economical and progressive materials and high quality completion items and in the required assortments. By no means can it be said that everything here is proceeding smoothly. For example, the tasks for delivering economical types of rolled metal to Minsel'khosmash /Ministry of Tractor and Agricultural Machine Building/ are not being carried out. Some types of completion parts that are being delivered are of low quality.

Measures are presently being developed and implemented aimed at eliminating these shortcomings. In particular, the material responsibility of enterprise leaders for non-fulfillment of the tasks for delivering progressive materials is being raised substantially. At a number of metallurgical plants, use is being made, in the form of an experiment, of a system for issuing material incentives for the production of effective structures.

This is producing results. But it would be incorrect to state that the key to solving the problem has been found. Thus the task of the organ responsible to the state for the problems of logistical supply consists of tirelessly studying the economic mechanism and stimulating the production and deliveries of those materials which meet the requirements for scientific-technical progress. Here a great amount of work must be carried out in this regard by scientists attached to our leading institute -- NIIMS /Scientific-Research Institute for the Economics and Organization of Logistical Supply/.

Another task of exceptional importance is that of carrying out the tasks called for in the food program with regard to intensifying the production potential of the agroindustrial complex. As is known, roughly one third of the overall volume of capital investments is allocated for this purpose.

Moreover, as emphasized during the Plenum by Comrade L.I. Brezhnev, "Maximum attention must be given to the timely placing in operation of those installations of the agroindustrial complex which are making it possible, within a brief interval of time, to achieve a great increase in food products." Their number includes not only agricultural and food branch projects but also enterprises of agricultural machine building, the chemical industry and other branches which are associated one way or another with implementation of the food program.

The solving of this task will depend to a great degree upon efficient work being performed by the soyuzglavkomplekt's /Main Administration for Ensuring the Supply of Complete Sets of Equipment, Instruments, Cables and Other Manufactures for High-Priority Construction Projects in the Coal, Petroleum and Other Branches of Industry/ and other organs of USSR Gosplan. During the past five-year plan, they completed the equipping and placing in operation of livestock production complexes for the raising and fattening of 322,000 head of large-horned cattle and almost 3 million pigs; poultry factories for 27 million laying hens and 218 million head of meat poultry annually; enterprises for the production of 487 million standard cans of vegetable and fruit products; enterprises for the production of 37.5 million tons of standard units of mineral fertilizer and 10.5 million tons of ammonia; capabilities for the production of 115,000 tractors.

This year the soyuzglavkomplekt's and other organs of USSR Gosplan will complete work on more than 700 projects under construction. This includes 341 food branch

installations, 225 large livestock production complexes and also installations for the production of mineral fertilizers, agricultural equipment and machines for livestock production, feed production and the food industry.

On the whole, the situation here is good. The plan for the first 6 months has been fulfilled. The equipment required for the installations to be complete has all been delivered in a timely manner. Work is proceeding successfully in connection with the completion of projects according to the plan for the third quarter.

However the work carried out does not justify a complacent attitude. More than 300 projects remain to be completed during the second 6 month period. And very little time remains for accomplishing this. Together with the soyuzglavsnabsbyt's, the territorial organs and the production ministries, the soyuzglavkomplekt's must immediately examine the situation with regard to the deliveries of equipment for those installations of the agroindustrial complex to be placed in operation this year, so as to ensure that no delays take place in the deliveries of these materials to the construction sites.

An important task is that of ensuring that the builders engaged in erecting the installations of the agroindustrial complex are supplied with the required materials and equipment. The organizational prerequisites required for successfully solving this problem have been created. USSR Gosnab and the construction ministries have issued joint orders defining the specific tasks for the deliveries of resources. On the whole, the carrying out of these orders is proceeding well despite the fact that delays are taking place in the case of individual construction projects. The workers assigned to the territorial organs of USSR Gosnab must analyze in detail each of these construction projects and undertake immediate measures aimed at compensating for the deficit deliveries.

The year 1983 must serve as an important stage in the implementation of the food program. Work is presently being carried out on the draft stage program for this year. Beyond any doubt, this draft plan must take into account the food program tasks. In the process, special attention must be given to searching for additional resources since, as noted during the May Plenum of the CPSU Central Committee, the planned tasks for the production of the various types of food goods must be viewed as being minimal in nature and subject not only to fulfillment but to over-fulfillment as well.

We possess experience in the carrying out of such work. Last year agriculture was allocated the following additional quantities of equipment from above-normal surpluses and by means of redistribution: 1,500 trucks and other transport vehicles, more than 26,000 electric motors, a considerable amount of rolled metal, piping, construction materials, cable products and fittings. Similar work, on an even greater scale, is also being carried out this year.

However, it would be incorrect to state that all available reserves are being used completely. It often happens that above-normal surpluses are transferred from one industrial enterprise to another and still not placed in operation. More decisive action must be taken: resources must be sent to those areas where they will produce a return immediately and where problems of national economic importance are truly being solved. Today the problems of the food program are included in this group.

This obviously is not meant to imply a weakening of control over the use of material resources in agriculture and its related branches. Such control must be carried out in all areas and on a constant basis. The need for intensifying the regime for achieving economies in the agroindustrial complex was emphasized directly during the May (1982) Plenum of the CPSU Central Committee as an important direction to be followed for intensifying its development.

An important source for obtaining additional resources for solving the food problem is that of utilizing secondary raw materials and waste products. The workers attached to Soyuzglavvtorresurs's /Main Administration for the Procurements, Deliveries and Use of Secondary Resources of USSR Gossnab/ and the territorial organs of USSR Gossnab must study attentively the possibilities for motivating the enterprises and organizations of our system to participating in this work. The foundation has been laid for such work. For example, this year the agricultural polyethylene film that has been removed from use will be employed for producing approximately 2,500 kilometers of piping for trickle irrigation and 800 tons of haylage film. In the interest of expanding the scale of such work, an enterprise is under construction at Balakhna for the processing of used film into drainage pipe. The plans also call for the erection of such enterprises in other regions of the country.

Fine results are being obtained from the use of heat and sound insulating materials of the Praksint and Trakin types, produced by enterprises of USSR Gossnab, for covering the cabins of drivers of agricultural machines and tractors. Approximately 250,000 square meters of such materials will be produced this year. It is the responsibility of workers attached to the Administration for Secondary Resources of USSR Gossnab, Soyuzglavvtorresurs's and all territorial organs to intensify in every possible way the searching for and utilization of secondary raw materials and waste products.

An important reserve for improving the supply of food products for the population is that of reducing the consumption of food raw materials for technical purposes. A considerable amount of work has been carried out in this regard in recent years. The use of vegetable oil in the production of paint and varnish products has been reduced (this made it possible to release approximately 400,000 tons during the 10th Five-Year Plan). A twofold reduction took place in the use of food fat in the production of toilet soap. The consumption of starch and other products for production purposes decreased as a result of the use of synthetic materials.

However, considerable resources in the form of food raw materials are still being used for other than their original purpose. The fact of the matter is that the rapid and final solving of this problem is by no means an easy task. It requires great capital investments and the mastering of new and technically complicated operations for producing substitutes. Thus a priority task of the organs of USSR Gossnab is that of taking advantage of those measures which can be implemented without having to use additional funds. First of all, economies must be achieved in the use of food raw materials and the consumption of such materials for technical purposes must be standardized. This applies to workers attached to the Administration of the Agroindustrial Complex, the Administration of Chemistry for USSR Gossnab, Soyuzglavkhim /Main Administration for Interrepublic Deliveries of Chemical and Industrial Rubber Products/, Soyuzglavbum /Main Administration for the Supply and Marketing of Cellulose-Paper Products of USSR Gossnab/ and to the

corresponding subunits of territorial organs. Much can be accomplished with regard to the distribution of synthetic materials for use as substitutes for food raw materials. Full use must be made of every opportunity for making food raw materials available for their intended purpose.

An important role is assigned to USSR Gossnab and its organs in solving an important task of the food program -- providing the food branches of industry, trade and agriculture with containers and packaging materials. Considerable packaging resources are being made available at the present time for the packaging of food goods. Nevertheless, considerable losses in fruit and vegetable products and other food products are still occurring during transport and storage operations. In addition to an overall shortage in containers and packaging materials, very few progressive types of these materials are being produced and the transporting of food products in containers, bales and using other economic methods is increasing very slowly.

The situation is also being adversely affected by non-fulfillment of the established tasks for deliveries of containers and packaging materials. For example, during the first 6 months of this year the plan for supplying agriculture with sets of fruit and vegetable containers was underfulfilled by approximately 5 percent. In addition, USSR Minpishcheprom /Ministry of the Food Industry/, USSR Minmyasomolprom /Ministry of the Meat and Dairy Industry/ and USSR Minrybkhoz /Ministry of the Fishing Industry/ have not been adequately supplied with tin plate or cardboard packaging materials.

The food program has called for improvements with regard to supplying the branches of the agroindustrial complex with containers and packaging materials. The plans call for the increased development of the production of new and economic types of packaging. The packaging resources for the food branches alone must be increased by one fourth (compared to 1982) by the end of this current five-year plan.

Towards this end, the central apparatus of USSR Gossnab, Soyuzglavles, Soyuzglavkhim, Soyuzglavtar, Soyuzglavtyazhmash, Soyuzglavmetall, Soyuzglavtsvetmet and also the corresponding subunits of the territorial organs must carry out a great volume of work. A considerable contribution towards this work can and must be made by the scientists of VNIKITU /All-Union Scientific-Research and Experimental-Design Institute of Containers and Packaging/. They must intensify both the development of new works and the introduction into operations of already completed works.

A great amount of importance is being attached to supporting and disseminating effective undertakings that have surfaced in the various areas. This can produce a considerable increase in the food resources. Let us take, for example, the experience accumulated in the Moldavian SSR in the harvesting and transporting of vegetables and fruit. Here, for example, apples are loaded into collapsible containers directly in the orchards, with the containers thereafter being placed on a special self-unloading platform with a roller conveyer. Subsequently this platform is towed to an assembly point where the fruit is sorted and once again packed in the same containers. Later these containers, without any resorting, are placed in storehouses or turned over to the trade network.

This is a simple innovation! And the fruit and vegetable losses are reduced by almost 75 percent. Of equal importance is that fact that the use of freight cars is increased by 20 percent. A considerable reduction takes place in the use of

lumber for packaging purposes, owing to elimination of the need for manufacturing the conventional wooden bins. Not as many additional resources are required for introducing this innovation into operations. A portion of these resources has already been allocated this year. Thus, in the near future, the possibility exists in the Moldavian SSR of converting over completely to this new method for collecting, transporting and storing fruit and vegetable products. Today the problem is one of ensuring the mass introduction of this method and particularly in the Trans-Caucasus republics, Central Asia, Krasnodar and Stavropol Krays and also in the Ukraine. The task of the Administration for Packaged and Container Shipments, Soyuzglavtara /Main Administration for the Repeated Use, Supply and Marketing of Packaging Materials of USSR Gossnab/ and the corresponding territorial organs is that of developing a long-term plan for this work jointly with USSR Minplodoovoshch-khoz /Ministry of the Fruit and Vegetable Industry/.

A great amount of work must be carried out in connection with increasing the deliveries of other types of food goods in containers and packages. For example, in 1983 and compared to this year the container shipments by USSR Minpishcheprom must be increased by a factor of 1.6 and in packaged form -- by a factor of 7. Considerable increases in these economic types of shipments are also called for in the case of a number of other types of food products. These tasks have been coordinated with the required material resources. The problem has to do with ensuring that they are delivered in a timely manner.

In light of the requirements handed down during the May (1982) Plenum of the CPSU Central Committee, a great amount of work must be carried out in connection with developing the capabilities of USSR Gossnab enterprises to produce containers and packaging materials. This year, as is known, the Kiev Cardboard-Paper Combine was placed in operation. A factor in Leningrad was also introduced into operations. The workers attached to Gossnab for the Ukrainian SSR and the Leningrad Main Territorial Administration must ensure the development of the planned capability of these enterprises as rapidly as possible.

A tremendous complex of work must be carried out in connection with the construction of cardboard factories in other regions of the country. A large program has been planned for developing a network of container repair enterprises. In addition to the five-year plan, USSR Gossnab must build 37 such enterprises representing an overall capability for producing 45 million container units annually. This is almost two times more than the amount planned earlier. Workers attached to the Administration for Capital Construction of USSR Gossnab, Soyuzglavtara, Soyuzglavvtorkartonprom and other subunits of the system, both in the center and in the various areas, must exercise special control over the construction of these installations. They must be viewed as being very important construction projects, since they are directly associated with solving the food problem.

In addition to increasing the production of containers and packaging materials, greater control must be exercised over their correct utilization, storage and shipments. Non-production losses here are still very great. The workers attached to the Administration of State Control of USSR Gossnab, Soyuzglavtara and the territorial organs are obligated to increase their work in this regard. It must be remembered that all economies realized in the use of packaging resources can be viewed as representing additional food resources. Such is the problem today.

The organs of USSR Gossnab, both in the center and out in the various areas, must carry out a great amount of work towards ensuring a maximum conversion of enterprises of the agroindustrial complex over to the progressive forms of supply. Here there are many reserves. At the present time, roughly 2,000 enterprises of branches of the agroindustrial complex are obtaining their principal types of raw materials, other materials and products (more than 40 types) on the basis of direct extended links. These are large enterprises for the most part. They account for 85 percent of the entire volume of products being produced by these branches. At the same time, many enterprises are still not included in the system of guaranteed all-round supply. Yes and the established direct long term links are not always being observed.

Owing to their specific nature, special attention should be given to the organization of supply operations for food enterprises. As a rule, they consume many types of construction materials and chemical products in small quantities, but in accordance with a rather broad nomenclature. Thus, for their purposes special importance is attached to the organization of production services -- laying out, cutting and packaging. Workers attached to the Technical Administration and other subunits of the central apparatus and to NIIMS /Scientific-Research Institute of Economics and the Organization of Logistical Supply/ should, together with the territorial organs and Soyuzglavsnabsbyt's, study this problem in detail in the interest of solving it as rapidly as possible. In developing this work, importance is attached to not being restricted only to the forms which presently exist. In short, everything must be done to ensure that those enterprises which are directly engaged in implementing the food program are provided with material resources on a continuous and efficient basis and in keeping with a high level of culture in the carrying out of supply operations.

A great amount of attention has been given in the food program to the development of subsidiary farms. "Each industrial enterprise and each organization capable of maintaining such farms" emphasized Comrade L.I. Brezhnev in one of his reports, "must as a rule operate them."

Within our system, work is unfolding in this direction. In the Gossnab's of Uzbekistan and the Tajik SSR's and in the Upper-Volga and other territorial administrations, farms have been created for the raising of livestock and poultry and also hothouse and hotbed farms. They have achieved fine results in the production of meat, milk, eggs and vegetables.

However, by no means are all of the organizations of USSR Gossnab taking advantage of the opportunities available for creating subsidiary farms. The territorial organs must devote special attention to these problems. According to L.I. Brezhnev, they must be solved on an "urgent, bold and industrious basis."

In the decree handed down during the May (1982) Plenum of the CPSU Central Committee, emphasis was placed upon the persistent need for achieving a turning point for all branches of the national economy with regard to solving the problems concerned with further improving agricultural production and developing the agroindustrial complex on the whole. This will make it possible, on a rapid basis, to ensure that the population is continuously supplied with food products. This instruction should serve as the foundation for work by all party organizations, each labor

collective and each communist and non-party worker in the USSR Gossnab system. Active organizational and political work must be carried out in all areas aimed at implementing the tasks of the food program and the conditions and conclusions set forth in the report by Comrade L.I. Brezhnev. Strict and efficient logistical support for the branches of the agroindustrial complex, industrious research and the use of additional reserves -- such are the requirements confronting us today and which must be met if we are to solve the food problem successfully.

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AGRO-ECONOMICS AND ORGANIZATION

INCREASING FOOD PRODUCTION TEMPO, EFFICIENCY OF APK LINKS

Moscow PLANOVYE KHOZYAYSTVO in Russian No 9, Sep 82 pp 76-81

[Article by N. Smetanin, deputy chief of a department at USSR Gosplan: "Food Program: Rates, Proportions"/

[Text] More than 15 years have elapsed since the decisions which laid the foundation for the party's agrarian policies during this modern stage were handed down during the March (1965) Plenum of the CPSU Central Committee. During these years, qualitative improvements have been achieved in developing the branch's productive forces, its logistical base has been strengthened substantially, the general educational and professional-technical level of the workers has improved and changes have taken place in the social climate in the rural areas. The degree to which the operational results of the kolkhozes and sovkhozes are being influenced by those branches which supply industrially produced means of production and also carry out the procurement, storage and processing of their products has increased immeasurably. The production relationships have become considerably more complicated. A need has arisen for developing and adopting new solutions for problems associated with developing the agrarian sector of the economy, solutions which are more in keeping with the changing conditions. This task was fulfilled during the May (1982) Plenum of the CPSU Central Committee. While continuing the program adopted earlier for further developing the logistical base of agriculture and its associated branches, strengthening the kolkhoz and sovkhoz economies, raising the material interest of their workers and improving the forms for organizing and controlling production, the decisions handed down during the Plenum are pushing into the foreground a number of basically new trends in agrarian policy, trends which must radically improve the reproduction conditions, ensure more efficient functioning for the production potential created and resources allocated and, on this basis, achieve more stable support for the population in the form of food goods and bring the structure of consumption more in line with the rational norms.

Here we have in mind mainly the need for intensifying the all-round development of the agrarian sector of the economy. The Plenum adopted the country's food program for the period up to 1990, a program which has no equal in terms of the scope of the branches and the spheres of activity associated with the production of food goods or in terms of the complete manner in which the prospects for the development of interacting branches have been worked out. With its adoption, a great forward step has been taken towards overcoming the existing lag that has developed between the organizational forms and methods for planning and control in the agrarian

sector on the one hand and the achieved level of development for productive forces on the other. An all-round approach in the planning and administration of agroindustrial production is becoming a basic requirement and one which must ensure a considerable improvement in its proportionality and balanced development.

The Plenum has outlined a system of measures for the social transformation of the rural areas. This derives from the fact that the considerable differences in housing and cultural-domestic conditions in the rural areas and cities have at the present time become one of the most important factors underlying the uncontrolled departure of manpower, particularly its more able-bodied portion, from the rural areas to branches of industry. As a result, in large zones of the country (nonchernozem zone of the RSFSR, Siberia, the Far East, rayons in the Volga area, a number of rayons in the Ukraine and so forth), agriculture has been transformed from a branch which in the not too distant past had an abundance of labor into a branch which is suffering from a shortage of labor, a branch in which the labor factor has become the chief and determinant factor with regard to the efficient utilization of the production potential created and material resources allocated.

The decisions handed down during the Plenum with regard to the redistribution in favor of agriculture of the volumes of non-production construction and concerning some measures for retaining kolkhoz members and sovkhoz workers and raising their material interest in the results of their labor must serve as a lever which will make it possible not only to reduce the turnover in skilled manpower in agriculture but also to attract able-bodied youth for this work and, on this basis, raise the effectiveness of additional investments in the production sphere in the rural areas and utilization of the production potential.

In the decisions handed down during the May (1982) Plenum of the CPSU Central Committee, the resource-economizing path of production intensification was finally confirmed. The plans for the current decade call for the maintenance of rather high rates of growth for the production of agricultural goods, with a substantial reduction in the rates of growth in capital investments and in the deliveries of mineral fertilizers and other material resources. This can be seen in Table 1, where figures are provided on increases in the more important resources per 1 percent growth in the production of gross agricultural output.

TABLE 1
(in %)

Resources	1971-1975	1976-1980	1980-1985	1986-1990
Capital investments	4.7	3.6	0.8	0.9
Mineral fertilizer deliveries	4.9	3.4	1.9	1.8
Power engineering capabilities	3.1	4.0	2.7	1.8

Hence, during the 1980's the center of gravity will shift over to the intensification of agricultural production and this will be achieved through the improved use of the production potential created and resources allocated.

As called for in the food program, the more extensive use of non-traditional means for increasing the volumes of food goods consumed, mainly by improving the preservation of the products and supplying the consumers with everything produced

on the fields and farms, will serve as a continuation of this trend for further increasing the gross yields of all types of agricultural products.

The losses in agricultural products continue to remain high owing to the weak nature of the material base for storage and poor interrelationships among partners in the production, processing and storage of goods. Thus, in the case of fruit and vegetable products and feed, they exceed the normative levels to a considerable degree. Certainly, losses and waste are inevitable and yet the need for reducing such losses sharply is a task of paramount importance.

The food program outlines specific measures for improving the preservation of the products: leading rates of construction for the facilities to be used for this purpose; considerable improvements in meeting the requirements for transport, including specialized transport and also for packaging materials; improving interrelationships among those partners upon whom the successful movement of products from the field to the consumer is dependent; reducing losses in the field of consumption.

As the logistical base of the processing branches of industry becomes stronger, more and more food products will be produced through the complete utilization of all components in the food products. The following must be accomplished during the current decade: introduce the use of waste-free technologies for the processing of goods on an extensive scale; reduce the use of food products for technical purposes, using chemical products in their stead; improve the utilization of "secondary" raw materials (skim milk, buttermilk, whey, fruit pomace and so forth) for the preparation of rich food products, increase the sale of food goods in light packaging. At the present time, for example, slightly more than one half of the milk protein is being used for food purposes and also two thirds of the skim milk and buttermilk being produced. Approximately 85 percent of the whey is being fed to the livestock.

The mentioned trends in the agrarian policies are defining new requirements with regard to planning and, in particular, establishing and changing the national economic, inter-branch and intra-branch proportions.

The intensification of the social trend in economic development, which is typical of the modern stage, and the party's program aimed at steadily raising the welfare of the Soviet people, even during this current five-year plan, have brought about appropriate structural improvements in the national economy in favor of the branches of the agroindustrial complex*.

The decisions of the May Plenum of the CPSU Central Committee call for these improvements to be expanded during the 1981-1990 period. The proportion of capital investments employed in branches of the APK /agroindustrial complex/ compared to

* Here and subsequently the national economic agroindustrial complex is considered to consist of the following branches: agriculture and its production-technical services, land reclamation construction, food, meat and dairy, milling-groats and mixed feed, microbiological industry, machine building branches (tractor and agricultural, for livestock production and feed production, food), the production of mineral fertilizers and chemical agents for protecting plants and also the fishing industry.

their overall volume for the entire national economy increased from 25.1 percent in 1961-1965 to 32.5 percent -- in the 10th Five-Year Plan and in the plan for 1981-1985.

Mention should be made regarding the high and stable proportion of capital investments to be used for the development of agriculture in the agroindustrial complex, as can be seen in Table 2.

TABLE 2
(in %)

Branches of Agroindustrial Complex	1961-1965	1976-1980	1980-1985	1986-1990
Resource-producing*	6.9	8.2	9.2	9.8
Agriculture	79.0	83.6	83.3	82.2
Processing industry	10.7	5.9	5.3	5.8
Fishing industry	3.4	2.3	2.2	2.2

* Machine building (tractor and agricultural, for livestock production and feed production, food); production of mineral fertilizers, microbiological industry.

Interest is being displayed in this regard in the inter-branch structure of capital investments, developed on the basis of capital investment volumes computed by specialists and considered necessary for satisfying completely, by the end of the 12th Five-Year Plan, the appropriate capabilities of each branch of the APK. Our computations reveal that this structure differs only slightly from the structure shown in Table 2. In this instance, agriculture accounted for 81.1 percent of the capital investments required for developing the APK on the whole, instead of 82.2 percent as called for in the computations for the food program and 83.6 percent -- for the 10th Five-Year Plan; the resource-producing branches accounted for 10.4 percent instead of 9.8 and 8.2 percent respectively, the processing branches -- 6.4 percent instead of 5.8 and 5.9 percent and the fishing industry -- 2.1 percent.

Based upon the experience of foreign countries, many economists advocate a considerable increase in the proportions for resource-producing and processing branches with regard to the overall value of the fixed productive capital and, it follows, in the capital investment volumes allocated. Neither the indicators in Table 2 for the existing and planned inter-branch structure of capital investments for the agroindustrial complex nor the indicators for the structure that is possible when the requirements for capital investments of all branches of the APK are completely satisfied furnish a simple confirmation of such a conclusion.

It is our opinion that this condition can be explained for the most part by two circumstances: the objective requirement for accelerated development of the logistical base for agriculture and the all-round nature of planning for this branch in our country. At the present time, owing to the weak logistical base for agriculture during the period prior to the March (1965) Plenum of the CPSU Central Committee and despite large capital investments from the Eighth through the Tenth Five-Year Plans, the mechanization of production processes and an increase in fixed productive capital have not been carried out in all areas. In our opinion, this has exerted a decisive influence on the formation of the capital investment

structure shown in Table 2. In other words, this approach recognizes the roughly equal support (lack of support) existing at the present time with regard to supplying the APK branches with fixed capital and the degree of satisfaction of their requirements for capital investments.

The second circumstance has to do with the fact that the capital investments allocated for agriculture are being used not only for developing farming and livestock production but also for the construction and equipping of enterprises and organizations for providing production-technical services for the kolkhozes and sovkhozes, for the processing of agricultural products, for developing a base for inter-kolkhoz construction organizations, for erecting installations of the construction industry within the USSR Minvodkhoz /Ministry of Land Reclamation and Water Resources/; for housing and cultural construction and the erection of other installations not being used directly for the production of agricultural products. According to computations by specialists, of 173 billion rubles worth of capital investments employed in agriculture during the Tenth Five-Year Plan, 39 billion rubles worth (23 percent) were used for creating productive fixed capital of a non-agricultural nature and 26.2 billion rubles (15 percent) -- for the production of non-production installations.

As a result of the functioning of the fixed productive capital created in the branch by means of capital investments, increases took place in the gross yields of farming and livestock products and also in the production of various types of industrial products and services. In 1980, for example, the following were obtained: gross agricultural output -- 122 billion rubles worth; gross industrial output, created at kolkhozes, sovkhozes and other enterprises within the USSR Ministry of Agriculture system -- 18.2 billion rubles worth; output of enterprises belonging to the USSR Goskomsel'khoztekhnika system, including the value of work and services -- 9.6 billion rubles worth; output of industrial enterprises of USSR Minvodkhoz -- 0.7 billion rubles worth.

The development of agroindustrial integration and the organizational merging of the production, processing and sale of agricultural products will bring about an increase in agriculture in the scales of industrial, procurement and other types of activity, an intensification in the all-round character of the branch and an expansion in the sphere of use of the capital investments allocated for it. Thus, during the 10th Five-Year Plan and in connection with the creation of the USSR Minplodoovoshchkhov /Ministry of the Fruit and Vegetable Industry/, the volume of capital investments in agriculture increased by 1 billion rubles.

Hence, during this modern stage of development a high proportion of the branch is objectively conditioned with regard to the overall volume of capital investments allocated for the agroindustrial complex. It is our opinion that a noticeable change in the capital investment structure, in favor of the resource-producing and processing branches of industry, will take place during the next stage, at which time all of the production processes in agriculture will for the most part be mechanized, its requirements for other funds satisfied and the re-equipping of the logistical base will commence.

The plans call for more substantial structural changes to be carried out during the current decade within the branches of the APK. Thus the chief material elements for livestock production are -- the number of livestock, feed and the livestock facilities. During the past three five-year plans the number of

livestock at all categories of farms increased by 22 percent; considerable funds were allocated for the construction of livestock facilities and this made it possible, by the end of 1980, to provide almost complete support in the form of livestock facilities, including those adapted for these purposes. At the same time, capital investments in feed production and feed preparation installations lagged substantially behind the requirements. Their volumes were less by a factor of three than those allocated for the construction and acquisition of equipment for livestock production. Adequate quantities of mineral fertilizers are not available for applying in behalf of forage crops. This represents one of the reasons for the feed base lagging behind the livestock production requirements and also for its weak growth in productivity in the past. Over the 10 year period the food program calls for as much capital investment to be employed for feed production as is being allocated for livestock production. And whereas the allocation of such investments for livestock production will be decreased somewhat compared to the preceding decade, the investment of funds for feed production installations will be increased by a factor of 2.2. The increasing deliveries of mineral fertilizers to the rural areas will be used mainly for grain and forage crops.

The change in the type of expanded reproduction in the livestock production 'ranches, as called for in the program, is closely associated with reorienting the trends in the use of capital investments and mineral fertilizers in favor of feed production. Whereas during the 1970's 81 percent of the entire increase in livestock output was achieved by an increase in the number of animals and only 18 percent -- by growth in its productivity -- during the current decade the primary role in increasing the production of livestock products will be played by improvements in the productivity of the livestock and poultry based upon considerable improvements in the feeding regimes (roughly 70 percent of the overall increase in gross output).

In his report delivered before the May (1982) Plenum of the CPSU Central Committee, L.I. Brezhnev stated in this regard: "The desire to have more livestock is understandable. But a chief concern under modern conditions is that of increasing the milk yields per cow and the average weight of all livestock delivered. Paramount importance is attached to improving the herd structure from the standpoint of quality. And this obviously includes considerable growth in the production of feed and improving the quality and rational utilization of such feed". The plans call for feed consumption per standard head to be raised to 33-34 quintals of feed units by 1990, or an increase of 7 quintals during the decade (over the past decade, this increase amounted to 1.5 quintals of feed units).

During the 11th and 12th Five-Year Plans, the entire increase in the production of farming products will be achieved by raising the cropping power, with the sowing areas remaining practically stable. Here the final result will depend to a great degree upon efforts aimed at raising the fertility of the land and reducing losses in cultivated crops.

One of the most effective directions to be followed for raising fertility is that of land reclamation. During the period which has elapsed since the May (1966)

* "Prodovol'stvennaya programma SSSR na period do 1990 goda i mery po yey realizatsii" /USSR Food Program for the Period Up To 1990 and Measures for Carrying It Out/, Moscow, Politizdat, 1982, p 12.

Plenum of the CPSU Central Committee, which launched a program for carrying out large-scale work in the irrigation and drainage of land, the capital investments for these purposes (including the agricultural development of lands newly placed in operation) increased from 6.7 billion rubles in 1961-1965 to 34.5 billion during the 10th and 40 billion rubles in accordance with the plan for the 11th Five-Year Plan.

The need for considerable expenditures for land reclamation derives from the great dependence of the results of agricultural production upon the climatic conditions. Thus, during the 9th Five-Year Plan the difference in the gross grain yields between the best and worst years in terms of cropping power amounted to 82.6 million tons (45 percent of the average annual production) and during the 10th Five-Year Plan -- 58.2 million tons (28 percent of the average annual production). The deviations in the production of coarse and succulent feed, by years of the 10th Five-Year Plan, amounted to 13 million tons of feed units (10 percent of the average annual production). It is not difficult to imagine the effect generated by fluctuations in the gross yields of grain and feed on the status of affairs in livestock production. Similar situations exist in the case of other crops.

The program of extensive land reclamation will be continued. During the 12th Five-Year Plan, land reclamation measures will continue to constitute a high proportion of the overall volume of capital investments of a production nature. At the same time, in addition to maintaining large volumes of land reclamation construction, an important task today is that of improving the utilization of reclaimed lands and eliminating the lag in their agricultural development. Every attempt must be made to eliminate the pause that is taking place in a number of zones throughout the country between the placing in operation of newly reclaimed lands and the construction of the production and non-production installations and also technical equipping required for their effective utilization.

Land reclamation construction experience in our country has produced a method for rapidly solving this problem. I have in mind the implementation of a complex of measures for the agricultural development of newly introduced irrigated and drained lands in virgin land and uninhabited regions of the country using the resources of land reclamation organizations. The 11th Five-Year Plan calls for the capital investments for these purposes to be increased by 43 percent and during the 12th Five-Year Plan -- by 39 percent, with 12 percent growth in new land reclamation construction during each of these five-year plans.

This method has proven to be highly effective and we are of the opinion that it should ideally be employed in the nonchernozem zone of the RSFSR when introducing new reclaimed lands into operations not only on agriculturally undeveloped tracts but also at kolkhozes and sovkhozes during the course of turning over for operation rather large areas of newly drained and irrigated lands. A certain reduction in the placing in operation of reclaimed lands, which will take place in the process, is compensated by their more rapid development and improved utilization with less overall expenditures.

An effective means for raising the fertility of land and one which is being employed more and more in agriculture -- mineral fertilizer applications. Over the past three five-year plans the deliveries of such fertilizer have increased by a factor of three and by 1990 the plans call for such deliveries to be further increased by a factor of 1.7 above the figure for 1980. At the same time, the program calls for a system of measures which will produce improvements in the use

of the mineral fertilizers: the accelerated development of capabilities for producing the machines and equipment required for transporting, mixing and applying them to the soil; strengthening the logistical base for the use of chemical processes in the interest of achieving a maximum reduction in losses; raising the responsibility of the agrochemical service and improving its interrelationships with the kolkhozes and sovkhoses being served. An increase will take place in the use of lime materials, since they improve the assimilation of nutrients by the plants.

During the 1986-1990 period, the plans call for agriculture to be supplied with 2.7 tons of lime for every ton of mineral fertilizer, compared to only 2 tons of lime delivered during the years of the 8th through the 10th Five-Year Plans. This will accelerate normalization of the acid content in soils, although this problem will not be solved completely during the current decade.

The level of utilization of the productive capability of land will depend to a decisive degree upon the size of and balance in the pool of tractors and agricultural machines. The power capabilities of agriculture at the present time exceed 600 million horsepower. The delivery of equipment to the rural areas as called for in the food program will make it possible to raise these capabilities to almost 1 billion horsepower. At the same time, work is continuing with regard to ensuring that sufficient mounted and towed machines and implements are available for the tractors. During the 11th Five-Year Plan, 189 rubles worth of agricultural machines will be supplied for every horsepower of tractor use in agriculture, compared to 157 rubles worth during the 10th and 134 rubles worth during the 9th Five-Year Plans.

Extreme importance is being attached at the present time to preserving all of the products produced and delivering to the consumers all that is being produced out on the kolkhoz and sovkhos fields and farms. This is a complicated problem. Improvements must be realized in the interrelationships of partners throughout the entire technological chain for movement of the products, in their economic interest, in strengthening the logistical base and in providing support in the form of vegetable and potato storehouses, silage and haylage installations, hay barns, hard surface roads, packaging materials and so forth. Thus the computations call for a substantial change in the proportions of capital investments of a production nature, in favor of those installations which ensure preservation of the products and their delivery to the consumer.

Although the capital investments of a production nature for the branches of "agriculture" are increasing on the whole by 18 percent over a period of 10 years, the allocation of such investments for storage installations will increase by a factor of 1.6. A considerable increase (by a factor of 2.5) is taking place in the capital investments for road construction. In 1990, 38 percent of the farms will have intra-farm hard surface roads, compared to only 17 percent at the present time, with one farm having 5-6 kilometers of such roads.

Housing and cultural-domestic construction in the rural areas represents the most important trend for the use of capital investments during the period encompassed by the food program. The 11th Five-Year Plan calls for capital investments in the non-production sphere to be increased by 45 percent above the level for 1976-1980, with a growth of 9 percent in such investments for agriculture on the whole.

The social trend in the use of capital investments in the branch will increase even more in the near future. The 12th Five-Year Plan calls for 25 percent of the overall volume of capital investments in agriculture to be used for the construction and equipping of installations of a non-production nature, compared to only 20 percent in 1976-1980 and 15 percent in 1971-1975. With the overall growth in capital investments in the branch during the current decade amounting to 31 percent above the figure for the preceding decade, the volumes of such investments to be allocated for installations of a non-production nature will increase twofold.

As mentioned in the report delivered by L.I. Brezhnev during the May (1982) Plenum of the CPSU Central Committee, the plans call for roughly 160 billion rubles to be used for the social reconstruction of the rural areas during the 1980's. Subsequently, L.I. Brezhnev further stated: "This is a large figure even for our scales. But it is not merely a large figure. It represents a great policy aimed at eliminating the social differences separating the cities and countryside"*.

The complete utilization of the funds allocated for reconstruction of the rural areas will not be an easy task. Up until now, more than one half of the entire volume of housing construction in the rural areas has been carried out using the economic method and this was possible owing to the fact that its volumes were relatively low.

The implementation of the program outlined during the May (1982) Plenum of the CPSU Central Committee for transforming the rural areas using only kolkhoz and sovkhos resources will be impossible. This requires the reorientation of the contractual construction organizations and enterprises of the construction industry over to carrying out the orders of the rural areas.

The 24 May 1982 Decree of the CPSU Central Committee and the USSR Council of Ministers entitled "Measures for Further Improving the Housing, Communal-Domestic and Social-Cultural Living Conditions of the Rural Population" calls for the carrying out by 1990, at kolkhozes, sovkhos and other agricultural enterprises and organizations, of construction-installation work in the amount of 75-80 percent of the overall limit, with use being made of the contractual method. Over a 10 year period the proportion of contractual work must be increased by 13-18 points compared to the present level, compared to 2 points of actual growth during the past decade. The fulfillment of the indicated task, and together with it the entire program for transforming the rural areas, must be called for in the plan for 1983.

The changes in the proportions for developing the agrarian sector of the economy, planned for the current decade, are aimed at maintaining high rates for increasing the production of food goods throughout the country and raising considerably the effectiveness of the functioning of all elements of the agroindustrial complex. The average annual gross output production for agriculture during the two five-year plans will increase by 27.7 percent, compared to 23.4 percent for the same preceding period. It should be borne in mind that the annual increase in the country's population does not exceed 1 percent. These figures reflect a peculiarity of the food problem during this modern stage. It lies in the fact that

* "Prodoval'stvennaya programma SSSR na period do 1990 goda i mery po yey realizatsii" /USSR Food Program for the Period Up To 1990 and Measures for Carrying It Out/, p 14.

the overall caloric value of the food ration already exceeds somewhat the rational norms, but its structure does not meet the requirements of the medical science, since fewer vegetable, fruit and livestock products are being consumed than called for in the norms. As the structure of the ration draws closer to the scientific norms, the expenditures of society for maintaining it will increase sharply. Thus the caloric value of 1 kilogram of pork meat is equivalent to the caloric value of 1 kilogram of bread. But in order to obtain 1 kilogram of pork meat, up to 10 kilograms of grain must be expended and the overall expenditures for 1,000 calories in meat is 15-20 times higher than that for grain.

The principal task of the food program consists of ensuring the continuous supply of all types of food goods for the population. An improvement in the balanced and proportional development of all elements of agroindustrial production is one of the most important conditions for the successful fulfillment of this task.

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AGRO-ECONOMICS AND ORGANIZATION

PLANNING ALLOCATION OF RESOURCES WITHIN APK SYSTEM

Moscow PLANOVoye KHOZYAYSTVO in Russian No 9, Sep 82 pp 81-86

/Article by A. Popko, head of a section of USSR Gosplan: "For Developing the Methods for Planning the APK^{*}"

/Text The decisions handed down during the May (1982) Plenum of the CPSU Central Committee constitute a long-term program for all Soviet people and a most important methodological document for workers assigned to planning organs. The food program developed for the country for the very first time and the decrees of the CPSU Central Committee and the USSR Council of Ministers adopted in connection with its development, raise the need for changes, clarifications and improvements in a number of statutes associated with planning, especially for agriculture and other branches of the agroindustrial complex.

In the speech delivered by L.I. Brezhnev before the May (1982) Plenum, emphasis was placed upon the need for raising the responsibility of the republic, kray and oblast party and soviet organs both for the formation of the all-union food fund and for the situation with regard to food in their own regions.

Each republic is responsible before the entire country for ensuring fulfillment of the obligations for delivering agricultural products to the all-union fund. This fund is a necessary prerequisite for solving many national tasks, such as developing the riches of Siberia and the Far East, implementing active foreign economic policies and creating adequate reserves for use during unproductive years, so as to reduce to the maximum possible degree the importing of food goods from capitalist countries.

A clear line cannot be drawn in agriculture between the food and non-food types of agricultural products. Thus, in the output of the principal technical crop -- cotton -- only one third of the weight of the raw cotton is fibre, with the remaining two thirds being seed, used for the production of food oil and cake for livestock production. In the resource structure for vegetable oil, more than 20 percent is provided by cotton and in the structure for cake and oil-seed meal one third is obtained from the processing of cotton seed. Cotton, flax and other non-food goods should not be excluded from the computations for the food programs of the republic and rayon levels, since their production involves expenditures of the same resources used for food crops: machines, labor, fertilizers and arable

* In the form of a discussion.

land. The exclusion of these crops from the computations for resource usage could lead to an excessive expansion of the sowings of food crops and this would cause harm with regard to supplying the country with the more important types of raw materials. We cannot tolerate a weakening of the economic and moral incentives employed for increasing the production of cotton, flax, common hops, tobacco, essential oils and medicinal and other types of raw materials, which at the present time must be purchased additionally on the foreign market. It would be wrong to subject to unprofitable conditions those republics and rayons of the country having exceptionally favorable conditions for the cultivation of technical crops. This bears mentioning in view of the fact that the methodological documents for the development of food programs are still not directed towards solving the problems associated with supplying the country with non-food agricultural raw materials. In our opinion, all types of non-food raw materials being placed fully at the disposal of the union organs should be viewed as deliveries to the all-union fund, in which the most important food resources for satisfying the requirements of all-union consumers and the grants to union republics are reflected.

The fulfillment by the union republics, oblasts and rayons of obligations of an all-state nature must be supported from an economic standpoint. In a speech dedicated to the 60th anniversary of the Georgian SSR, L.I. Brezhnev emphasized that all people working in agriculture must be morally and materially interested in ensuring that more of their products are made available for satisfying the all-union requirements. The national economic importance of the all-union fund for food and non-food raw underscores the advisability of developing and employing an economic mechanism which will intensify the interest of the union republics in increasing the deliveries of all types of agricultural products to this fund.

In the decree of the CPSU Central Committee and the USSR Council of Ministers entitled "On Improving the Administration of Agriculture and Other Branches of the Agroindustrial Complex," the need for consistent use of economic methods of management is pointed out. In this regard, we are of the opinion that it would be advisable in planning practice to employ one of the most efficient levers for generating an economic effect on production -- the distribution of logistical resources. Ideally, a mechanism should be found for distributing these resources which will interest the kolkhozes and sovkhozes in increasing their marketable products and the republics -- in delivering them to the all-union fund. Moreover, growth in these indicators above the level of tasks must be accompanied by an increase in the deliveries of the required types of logistical resources to the republics and farms.

In agriculture there is no direct normative relationship between the specific type of resource and the products obtained. The link between the production volumes for agricultural products and logistical support takes place at times along directions which at first glance are unexpected. Thus, a further increase in milk production in a number of regions of the country is at the present time greatly dependent upon the volumes of non-production construction in the rural areas and to a greater extent than it is dependent upon the construction of livestock farmyards or the deliveries of milking units or even industrial feed. Support for the population in the form of vegetables and fruit is conditioned not so much by fertilizer deliveries to the kolkhozes or the irrigation of land at sovkhozes as it is by the availability of transport for the timely delivery to the consumers of the products grown. The final results are influenced to the greatest degree by that factor which at a given moment and on a specific farm or region emerges as a bottleneck. The greatest

economic results will accrue to the national economy if the appropriate resources are directed mainly at eliminating the bottlenecks. However, even at a number of settled farms, the conditions for the production of agricultural products vary: at some the condition of the land requires reclamation measures, at others there is not enough feed or land for such production and at still a third group of farms there is a shortage of labor resources for procuring the available feed and making proper use of the fertile lands.

Experience accumulated over the past few years has shown that any centralized attempt to determine the proper methods for intensifying agricultural production leads to a reduction in the effectiveness of large state investments in agriculture. The existing method for planning the distribution of material resources does not present either the republic or a farm with the right to select those resources which affect the production results to the greatest degree. A uniform increase in all types of resources allocated does not provide a corresponding increase in agricultural output.

In his work entitled "The Agrarian Problem and Marxist Criticism"*, V.I. Lenin pointed out that growth in the productivity of additional investments requires a change in the production methods, a reorganization of equipment and the introduction of new field crop husbandry systems and new livestock maintenance methods. At the present time, the arsenal of means for influencing the fertility of land and the productivity of livestock has been greatly improved. In our opinion, periodic changes are required in the means and trends for production intensification. Thus a uniform increase in all means of intensification and the transferring of attention from certain types of resources to others would be more effective. The existing mechanism for the distribution of logistical resources does not call for such maneuvering either at the republic or farm levels. Experience has shown that a land reclamation system or large and expensive livestock production complex can be built for a kolkhoz or sovkhoz, without taking into account its request, although a bottleneck may exist in the form of a shortage of manpower or feed. But a farm, rayon or oblast management will not reject such construction, since the additional funds obtained do not obligate them to produce a corresponding additional volume of products. Those ministries and departments which arrange for the resources to be allocated are not associated in terms of obligations for the delivery of products to the state.

The decisions handed down during the May (1982) Plenum of the CPSU Central Committee orient the farms and enterprises towards utilizing more efficiently the state resources allocated for developing all branches of the agroindustrial complex. Success in carrying out these decisions will depend mainly upon improving the methods for planning and improving the system of logistical supply for the upcoming period.

In the decree of the CPSU Central Committee and the USSR Council of Ministers entitled "Measures for Improving the Economic Mechanism and Strengthening the Kolkhoz and Sovkhoz Economies," it is pointed out that the system for planning and logistical supply for the agroindustrial complex must be based upon the fact that the work of the APK /agroindustrial complex/ is planned as a single whole, no increase takes place in the number of indicators for agriculture, the planned tasks receive the required support in the form of logistical and other resources and the

* V.I. Lenin. Complete Works, Vol. 5, p 101.

production volumes for agricultural output for carrying out the plan for state procurements are formed based upon the kolkhoz and sovkhoz plans, while the plans for logistical supply are predicated upon the requests of the kolkhozes and sovkhozes.

At the present time, no direct link exists between the plan for procurements and the allocation of logistical resources and this leads on the one hand to subjectivism in the completion of planned tasks and in the distribution of resources among the oblasts, rayons and farms and to a disruption in the balance of the plans. On the other hand, owing to a lack of an association between the resources obtained by the republic and its obligations to the all-union food fund, conditions are created for unjustifiably inflated requests by the republics and farms for all types of resources and non-critical acceptance of everything that is proposed by the supply, planning and construction organizations, regardless of the level of anticipated effectiveness. Such a system for the distribution of logistical resources distorts the true requirements of agriculture and creates the appearance of a demand for obsolete types of machines and low-quality types of resources. It also inhibits the development and introduction into planning practice of scientifically sound and economic norms for the expenditure of resources per unit of output and it does not promote the use of reserves for realizing economies in the use of fuel, raw materials and other materials, since the plan for allocating them in the future is based upon actual expenditures. Thus, under the conditions imposed by the existing method for distributing resources, a limit placed upon the consumption of petroleum products leads to a situation wherein the lower level planning organs strive to create definite reserves and are not interested in planning technologies which lower the planned requirements for fuel.

The problem of closer coordination of the deliveries of logistical resources with the results of agricultural production has long been the object of attention by workers attached to the planning organs in the center and in the various areas. However, in the process the indicator which determines the production result remains controversial: gross agricultural output, marketable output on the whole or only a portion of it -- state procurements. For a kolkhoz or sovkhoz, every quintal of product produced involves expenditures of definite types of resources. However, in the interest of stimulating growth in the marketability of kolkhoz and sovkhoz production, the higher organs which distribute the resources and which bear responsibility mainly for the state plan regard the distribution of resources as being dependent upon fulfillment of the procurement plan, especially since these indicators are corroborated by statistical accounting. But the volume of the resources distributed remains the same provided it is distributed according to the gross output, the sowing areas, the number of livestock or according to a point evaluation of the agricultural lands. The distribution mechanism, without changing the available volume of resources, makes it possible to stimulate the efforts of the kolkhozes and sovkhozes either towards obtaining a maximum gross output, raising the marketability or towards fulfilling the plan for state procurements.

Gross output is the foundation for increasing the state procurements and for forming the commodity resources for consumer cooperation and the kolkhoz market, for the public food, forage and seed funds and also for private consumption. However, its volume in agriculture is only a prerequisite for the formation of the final product (food goods and raw materials), since the level of the latter will depend upon the preservation and effectiveness of use of the gross output,

especially forage (feed consumption per quintal of milk and weight increase). In the process, the accounting data on gross production is formed by the farm itself and is not an object of planning and control from the standpoint of the state organs. Thus, not all of the marketable products make an appearance. Under the conditions associated with implementing the food programs of oblasts and rayons, the local organs can take into account, in the form of a real contribution by each kolkhoz, sovkhoz and subsidiary farm in solving the programs, those volumes of agricultural products which are aimed at consumer cooperation and public catering enterprises, in addition to the plan for centralized procurements. For republic organs, the chief indicator for agricultural production results continues to be that of state procurements, from which the all-union and republic funds are formed.

During the 10th Five-Year Plan, according to our computations, the volume of state procurements of agricultural products (not counting the procurements of consumer cooperation) amounted to 57 percent of its gross production in comparable prices. However, of all of the products procured, only grain, oil-bearing crops, sugar beets and all types of non-food raw materials were placed at the disposal of the union organs. With regard to meat, milk, eggs, potatoes, vegetables and fruit, these products form the most part remained at the disposal of the republic and local organs for satisfying the food requirements within the republics and only a certain portion of them was assigned to the all-union fund.

During the 10th Five-Year Plan and for the country as a whole, the agricultural products (food goods and raw materials) placed at the disposal of the union organs amounted to one fourth of the entire gross production. Three fourths of the output remained in the republics for satisfying local needs -- production (seed and forage) and food consumption. However this ratio was revealed only through an analysis of the actual distribution of the products. The plan still does not provide for such differentiation and this precludes the possibility of the local organs knowing in advance the scales for independence in solving the food programs at the rayon, oblast and republic levels. A considerable portion of the meat, milk and eggs supplied by the republics to the all-union fund reaches other republics which specialize in the production of cotton, tea, grapes, vegetables and fruit. Almost all of the resources of grain, groats and macaroni and confectionery products in the state trade of all of the republics are formed from grain obtained by means of state procurements and which was included in the mentioned one fourth of the volume of agricultural products placed at the disposal of the union organs (USSR Minzag /Ministry of Procurements/, USSR Minpishcheprom /Ministry of the Food Industry/, USSR Minplodoovoshchkhov /Ministry of the Fruit and Vegetable Industry/ and others).

In view of the importance being attached to the all-union fund for food goods and agricultural raw materials, for satisfying both the all-state and republic requirements for food and non-food goods (clothing, footwear and so forth), it is considered advisable to concentrate the attention of the planning organs on developing, together with the republics, plans for just this portion of the agricultural products and not for the entire volume of procurements, such as is being done at the present time. In our opinion, there is no need for having the USSR Council of Ministers examine or approve those problems concerned with the procurements of that portion of the agricultural output which subsequently will remain for consumption in the various areas. For example, the republics of Central Asia and the Trans-Caucasus are for the most part not exporting the meat, milk and eggs being procured. The vegetables and fruit being procured in the Baltic republics are being used only for internal consumption.

In the speech delivered by L.I. Brezhnev before the November (1981) Plenum of the CPSU Central Committee, emphasis was placed upon the need for improving the system of procurements such that there would be no unwarranted expenditures for procuring and transporting products which subsequently would be returned to their production areas. The rejection of excessive regulation from above over problems which can and must be solved in the republics conforms to the decisions handed down during the May (1982) Plenum of the CPSU Central Committee.

Greater influence by the central organs of administration over the basic problems of agricultural development and the agroindustrial complex on the whole could promote the use of a more improved system for the planning and distribution of logistical resources. Towards this end, we are of the opinion that the distribution of resources among the union republics should be carried out depending upon the delivery volumes for all types of food goods and raw materials, made available by them and placed at the disposal of the union organs, with such products being referred to as the all-union fund.

The implementation of such a principle does not pose any technical difficulties. Our computation of the actual distribution of material resources during the 10th Five-Year Plan has shown that for 1 ruble of gross agricultural output in comparable prices, 45 kopecks were allocated for all types of industrial and construction products (equipment, fertilizers, fuel, feed and other types of fixed and working capital). For every ruble of output placed at the disposal of the union organs, 1 ruble and 72 kopecks worth of resources were allocated.

A computation of the overall resource fund for each republic assumes the establishment of uniform coefficients for the country for converting all types of agricultural products into a standard value expression, one which expresses the material-intensiveness of the product. At the same time, all types of logistical resources must be converted over to a value expression in accordance with the 1982 wholesale prices. Owing to inequality in the total amounts of output and resources, we introduced an appropriate coefficient, for example, 1 ruble and 50 kopecks worth of resources for each ruble's worth of product delivered to the all-union fund. The distribution of logistical resources according to this principle would raise the economic interest of the union republics in forming the all-union fund for food goods and raw materials and present them with the possibility of selecting those types of resources, the use of which would be most effective for the republic during the given period.

This mechanism for distributing resources would make it possible to uncover the true requirements for each type of resource and this would serve as a fine reference point for selecting the priority trends for developing the sub-branches of machine building, chemistry and other subunits engaged in supplying the agroindustrial complex with the means of production. The introduction of such a mechanism will require the creation of a certain reserve of resources for solving the all-union economic and social problems, developing new regions for agricultural production and eliminating the consequences of natural calamities. Such a reserve must be distributed separately and not associated with deliveries of products to the all-union fund. The plan for the 11th Five-Year Plan calls for approximately 25 percent of all resources allocated for agricultural development to be used for this purpose; this includes expenditures for developing the nonchernozem zone of the RSFSR, Siberia and the Far East and also funds placed at the disposal of the union ministries and departments.

Types of Resources and Products	Quantity	Unit Price*, in rubles	Overall Cost, in rubles
Request for resources:			
tractors:			
MTZ-80	2	3987	7974
K-701	1	15575	15575
combines:			
SK-611	3	6871	20613
potato			
KKU-2A	2	4530	9060
superphosphate, tons	120	68.5	8220
mixed feed, tons	600	100	60000
volume of contractual work, in thousands of rubles	-	-	100000
total	-	-	221442
Plan for the sale of agricultural products, in tons			
grain	310	100	31000
potatoes	580	30	17400
flax-straw in a conversion for fibre	14	1500	21000
perennial grass seed	5	1500	7500
meat (in dressed weight)	60	2000	120000
milk	98.2	250	24542
total	-	-	221442

* Conditional estimate.

The distribution of all resources according to the final results can be employed during the course of preparing the plan of the republics with the oblasts, the oblasts with rayons and the rayon agroindustrial associations with the farms. However, each level should have its own coefficients for the "product - resource" link, since at the lower levels the criterion for results is not the deliveries of products to the all-union fund but rather all procurements or even all marketable output. At the rayon level, material resources can be allocated for products sold in conformity with the plans of RAPO's /rayonnoye agropromyshlennoye ob'yedineniye; rayon agroindustrial association/. The system of resource distribution can be presented in the form of a cost ratio between the resources obtained and the marketable output, as shown in the table.

The examples cited apply to agriculture and yet the mechanism can be employed throughout the APK /agroindustrial complex/ on the whole. The distribution to other spheres of the complex will be associated only with an expansion in the nomenclature of the products sold and also with the introduction of coefficients for a conditional estimate of the products and raw materials processed. And at the present time, products in processed form are being shipped beyond the limits of a rayon or republic -- canned goods, smoked foods, dry fruits, cotton fibre, flax and others. In order to distribute material resources to the processing branches of the APK and for a conditional estimate of their output, it will be necessary to take into account the total amount of material expenditures added by the processing industry to the estimate for the agricultural raw materials. In all other respects the resource distribution mechanism remains the same.

The list of types of products placed at the disposal of the union organs is dependent upon whether or not the local APK's include enterprises for the primary processing of flax, cotton, essential oil and medicinal crops, wool, karakul pelts, leather-fur raw materials and so forth. The elimination of departmental limits during the processing stages for cotton for example, would make it possible to combine the efforts of the kolkhozes and cotton cleaning plants and thus obtain a greater quantity of improved quality fibre. Moreover, the cotton-ginning plants can themselves serve as departments of sovkhoses or even kolkhozes. The same holds true for the industrial processing of flax-straw. Increases in production and especially improvements in the quality of the fibre can be achieved without additional expenditures, but only by improving the interrelationships of the branches at those points where agriculture and industry come together. In his report delivered before the May (1982) Plenum, L.I. Brezhnev underscored the need for further improving the production relationships and also that the methods for administration and planning, the methods for issuing incentives and the management mechanism must create conditions for highly productive work.

In our opinion, the proposed mechanism for distributing resources meets the requirements set forth in the decree of the CPSU Central Committee and the USSR Council of Ministers entitled "Measures for Improving the Economic Mechanism and Strengthening the Kolkhoz and Sovkhoz Economies." It does not require a breakdown in the existing system of logistical supply organs or planning organs, but rather it simplifies their work considerably. It can be assumed that allowing the kolkhozes and sovkhoses to select the means of intensification will bring about substantial changes in the attitude of farms towards each type of resource, reveal their true priority for the country as a whole and the need for bringing the requests for resources into harmony with the contribution being made towards solving the food program and require the specialists to prepare their requests in a more thorough manner and to use the resources obtained more judiciously. It is possible that the demand for some types of resources will be higher than the quantities available (even with limitations being placed upon the requests for particular products), while for other products there will be no demand whatsoever. This requires a certain reorientation of the industrial branches engaged in producing the means of production for agriculture. A definite change is required in the work forms for the departments of USSR Gosplan and a number of ministries and departments. But as stated by L.I. Brezhnev in the Summary Report by the CPSU Central Committee to the 26th party congress, a lively and developing organism for farm management must not be adapted to settled and customary forms. To the contrary, the forms must conform to the changing economic tasks.

The proposed improvement in the method for distributing logistical resources will make it possible to raise the effectiveness of their use and thus it will make a definite contribution towards solving the tasks embodied in the food program.

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AGRO-ECONOMICS AND ORGANIZATION

CONSUMER COOPERATIVE OFFICIAL QUERIED ON VEGETABLE DECREE

Moscow TRUD in Russian 20 Aug 82 p 4

/Interview with A. Yashin, deputy chairman of the administration for the USSR Central Union of Consumers' Societies by A. Kazakov; date and place not specified/

/Text/ Recently the CPSU Central Committee and the USSR Council of Ministers adopted the decree entitled "Additional Measures for Expanding the Sale of Fruit and Vegetable Products To the Organizations of Consumer Cooperation and at Kolkhoz Markets by kolkhozes, sovkhoses and other agricultural enterprises." Our correspondent has asked the deputy chairman of the administration for Tsentrosoyuz /Central Union of Consumers' Societies/ A. Yashin to comment upon some of the conditions set forth in this decree.

/Question/ Aleksey Grigor'yevich, the decree stipulates that the agricultural enterprises mentioned in it are now authorized to sell up to 10 percent of their planned procurement volumes for vegetables, melon crops, fruit and berries (with the exception of table grapes, common onions and garlic) and also all above-plan output to organizations of consumer cooperation and at kolkhoz markets. Moreover, the products thus sold are included in fulfillment of the state plan. In addition, melon crops, vegetables, fruit and berries not accepted by the procurement specialists can be sold by the agricultural enterprises to state and cooperative organizations and at kolkhoz markets, at prices decided upon by the parties involved, with these products being included in fulfillment of the plan for selling such products to the state. Specifically, what will the realization of this decree do for purchasers and the consumers of agricultural products?

/Answer/ The new decree will make it possible to improve the supply of food products for our country's workers. First of all, a reduction will take place in the losses in products grown. Indeed, it is no secret that for various reasons the procurement specialists are unable to accept on a timely basis all of the crops harvested. For example, there may be a shortage of packaging materials or transport vehicles. And indeed fruit and vegetables cannot wait -- they spoil. Today, following publication of the decree, the farms are able to handle all of the products grown in a more flexible manner. They can sell them to state organizations, to the organizations of consumer cooperation and also directly on the market. In this manner the kolkhozes, sovkhoses and other agricultural enterprises are fulfilling the state plan and at the same time the crop losses are decreasing. And the products which a particular farm sells on the market will now

be included in the plan and promote the economic enterprise of the leaders of agricultural enterprises. As a result, greater quantities of fruit and vegetables will be shipped from the fields to the consumers.

Question How do the measures called for in the decree affect the quality of the agricultural products?

Answer Today, with the farms being directly interested in selling a portion of their crops at the markets or to organizations of consumer cooperation, where the market and contractual prices are higher than the procurement prices, they are concerned with ensuring that the apples are not bruised and the tomatoes not crushed. With regard to assisting the farms in selling their products, the decree tasks the councils of ministers of union and autonomous republics and the executive committees of local soviets with undertaking additional measures aimed at improving the operations of kolkhoz markets and strengthening their logistical base. This includes additional areas, transport vehicles, trade and warehouse facilities, kolkhoz and sovkhos stores, stalls and booths -- in short, everything that is required for the proper organization of trade.

Question However, the market is the market and is it not true that the market prices are higher than the state and cooperative prices?

Answer As is well known, the market price is formed by demand and supply. The better we are able to organize trade, the more advantages will accrue to the purchaser. This applies to prices.

Question How does this affect those who sell at markets surplus products grown on subsidiary farms?

Answer I can only state that no advantage is realized by those who, taking advantage of a shortage in a particular type of product, inflate the market prices.

Question Thus the quantities of fruit and vegetables at the markets and in the stores of consumer cooperation must increase with the passage of time. But will not the possibility of being able to sell a portion of the planned output at markets and in the stores of consumer cooperation lead to a situation wherein there will be less fruit and vegetables available in the stores of the state trade network?

Answer The CPSU Central Committee and the USSR Council of Ministers, as pointed out in the decree, have obligated the central committees of communist parties, the councils of ministers of union republics and local party and soviet organs to intensify their control over the work of procurement organizations and to raise their role and responsibility for the fulfillment of the plan for procuring fruit and vegetable products and for ensuring the timely deliveries of such products to cities and industrial centers. Emphasis is placed upon the need for ensuring the priority and unconditional fulfillment of the planned tasks for deliveries of all types of fruit and vegetable products to the all-union fund.

The decree adopted by the party's Central Committee and the Soviet Government will be of great importance with regard to implementing the USSR food program approved

during the May (1982) Plenum of the CPSU Central Committee. It calls for improvements in the work of supplying the population with fruit and vegetable products and potatoes, by further increasing production, raising their quality and sharply curtailing those losses which occur along the paths leading from the fields to the consumer.

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